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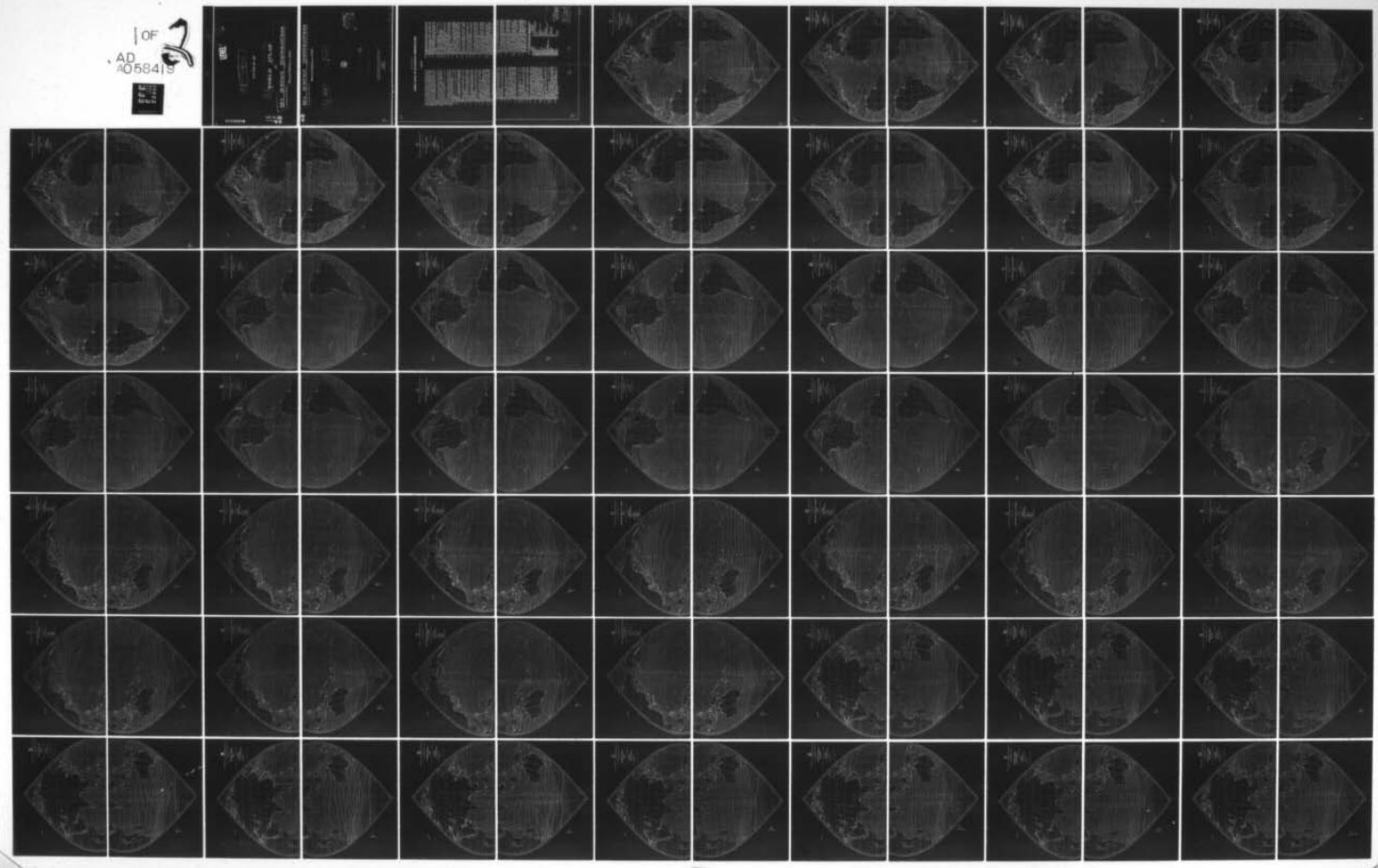

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WORLD ATLAS

OF

SEA SURFACE TEMPERATURES

Second Edition—1944.

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1973 (Reprint)

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WORLD ATLAS OF SEA SURFACE TEMPERATURES

PREFACE

This world atlas of sea surface temperatures was prepared by the Scripps Institution of Oceanography, La Jolla, Calif., from all sea surface temperature information collected by the U.S. Naval Oceanographic Office, together with all available data from other sources, with special reference to regions of few observations. It is believed that this compilation represents the most accurate pattern of sea surface temperatures of the world yet prepared.

Isotherms are shown for intervals of 5°F. except that in regions of small horizontal temperature gradients 2.5° isotherms have been entered. A closer spacing of these lines would have caused overcrowding and given a false idea of the reliability of the patterns.

Information on ice limits is also shown whenever possible.

In the preparation of this atlas, besides utilizing the millions of correlated individual observations from the files of the U.S. Naval Oceanographic Office, information was also obtained from the following sources:

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KEY TO REFERENCES USED IN PREPARING WORLD ATLAS OF SEA SURFACE TEMPERATURES

Region	Reference
Antarctic Ocean	3, 4, 11, 12, 19, 22
Arctic Ocean	1, 2, 7, 9, 13, 15, 18, 34
Atlantic Ocean	3, 7, 9, 13, 15, 24, 26, 38
Baffin Bay	38, 39
Baltic Sea	10
Bering Sea	5, 30, 40
Black Sea	3, 8, 17, 20, 21, 26, 28
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Persian Gulf	29
Peru coast	14
Red Sea	41
South Pacific	5, 11, 12
White Sea	1, 2, 7, 13

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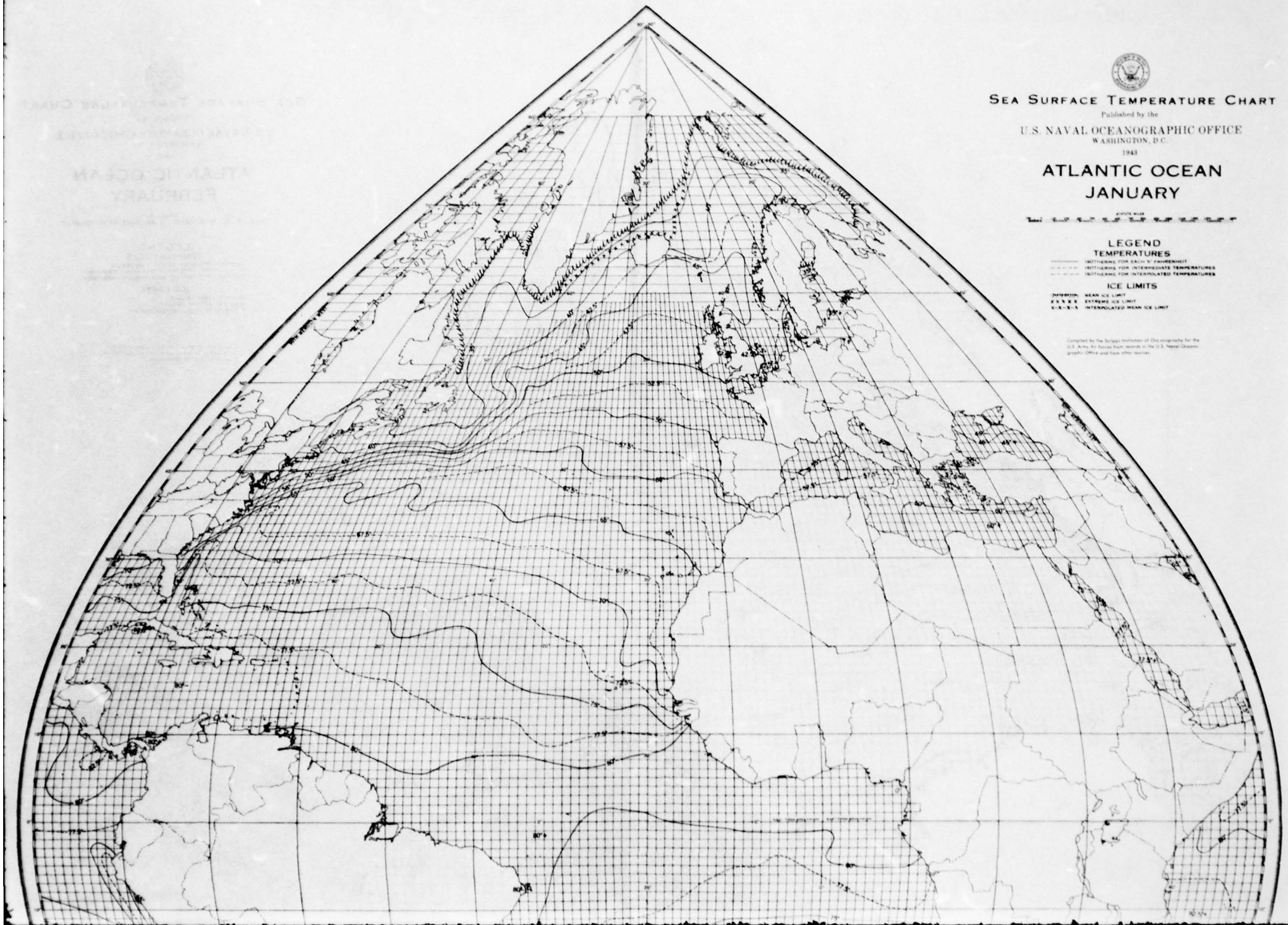

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1948

ATLANTIC OCEAN
JANUARY

STATUTE MILES

LEGEND

TEMPERATURES

ISOTHERMS FOR EACH 5° FAHRENHEIT
ISOTHERMS FOR INTERMEDIATE TEMPERATURES
ISOTHERMS FOR INTERPOLATED TEMPERATURES

ICE LIMITS

MEAN ICE LIMIT
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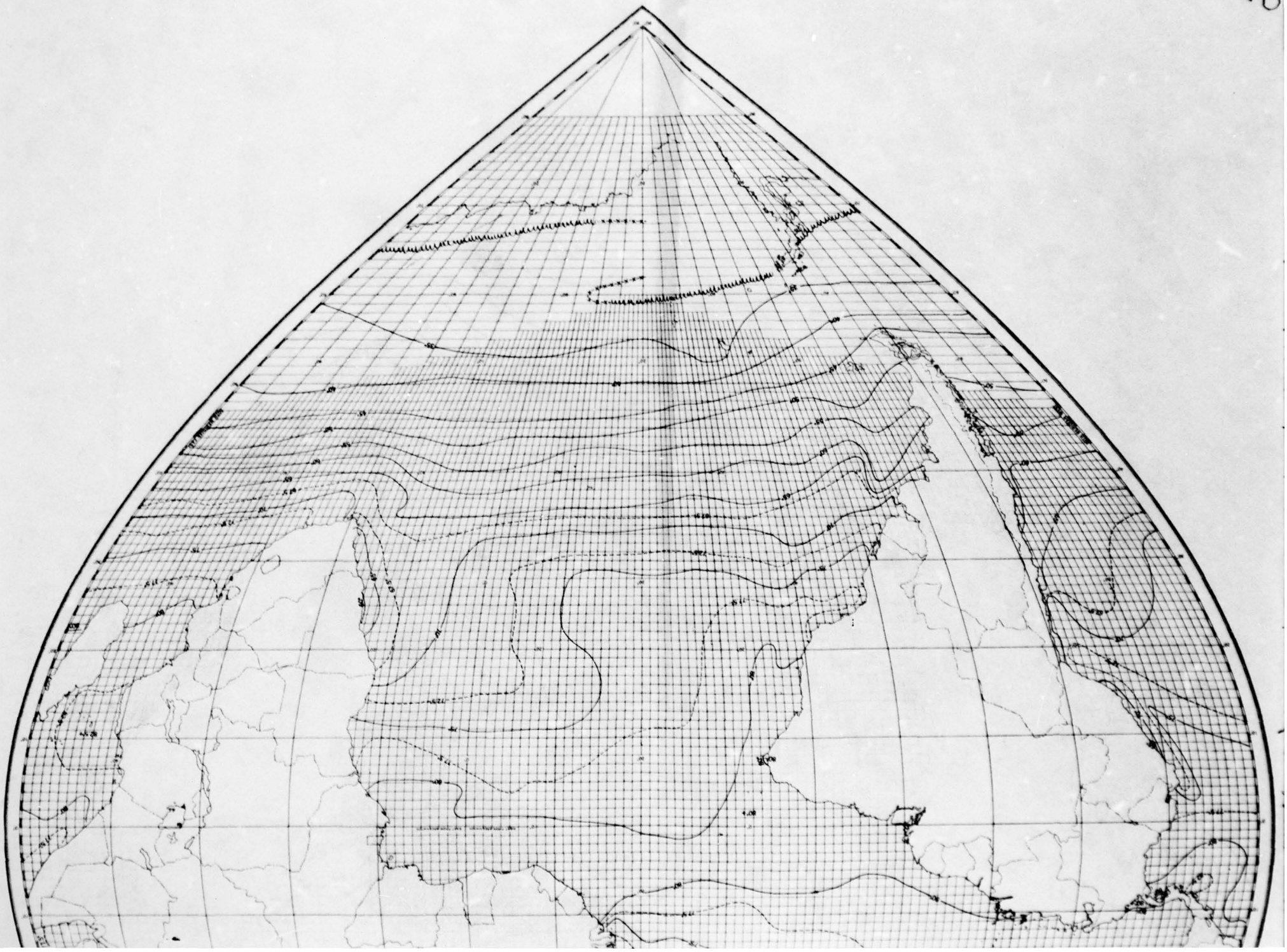

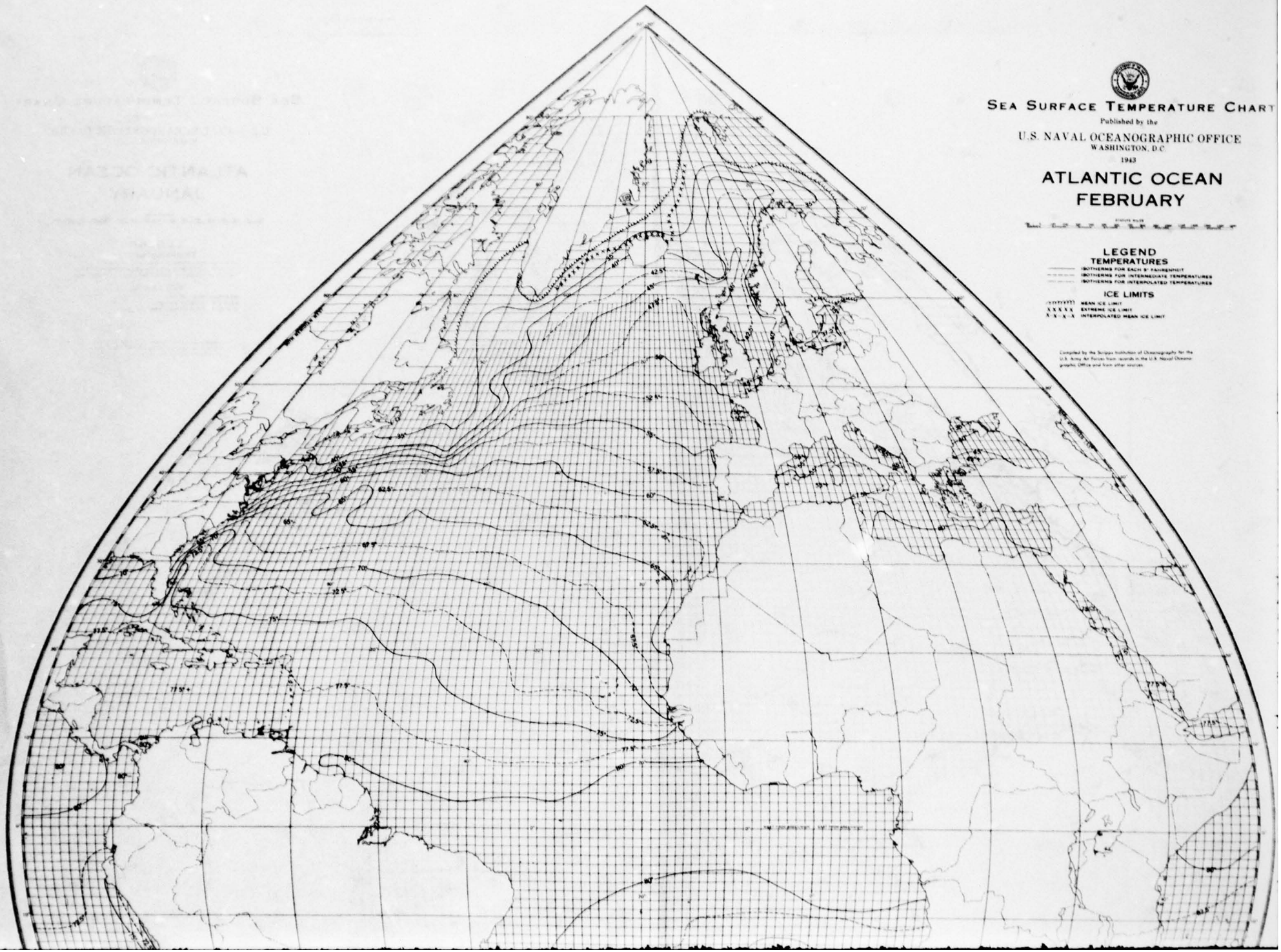

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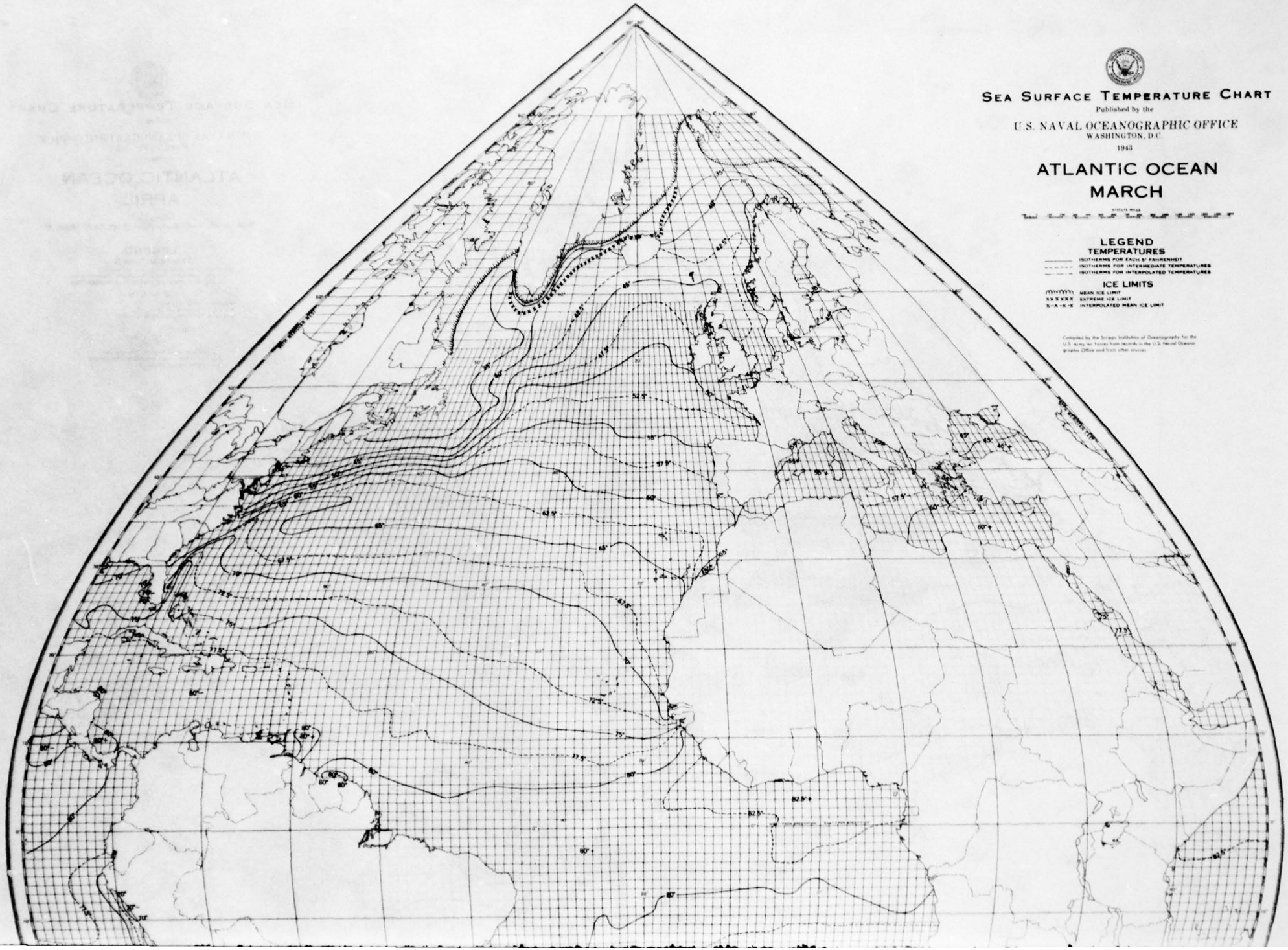

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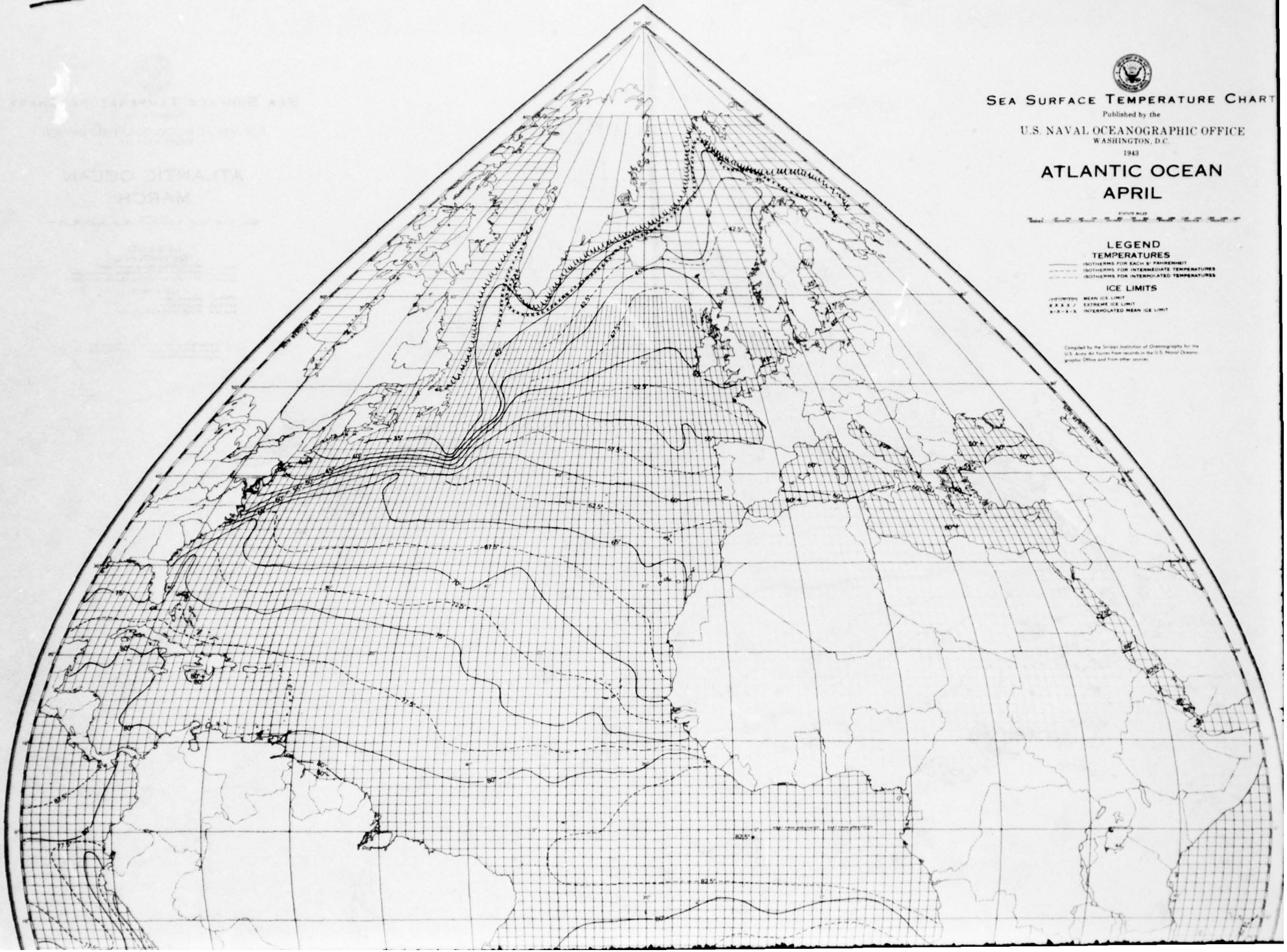
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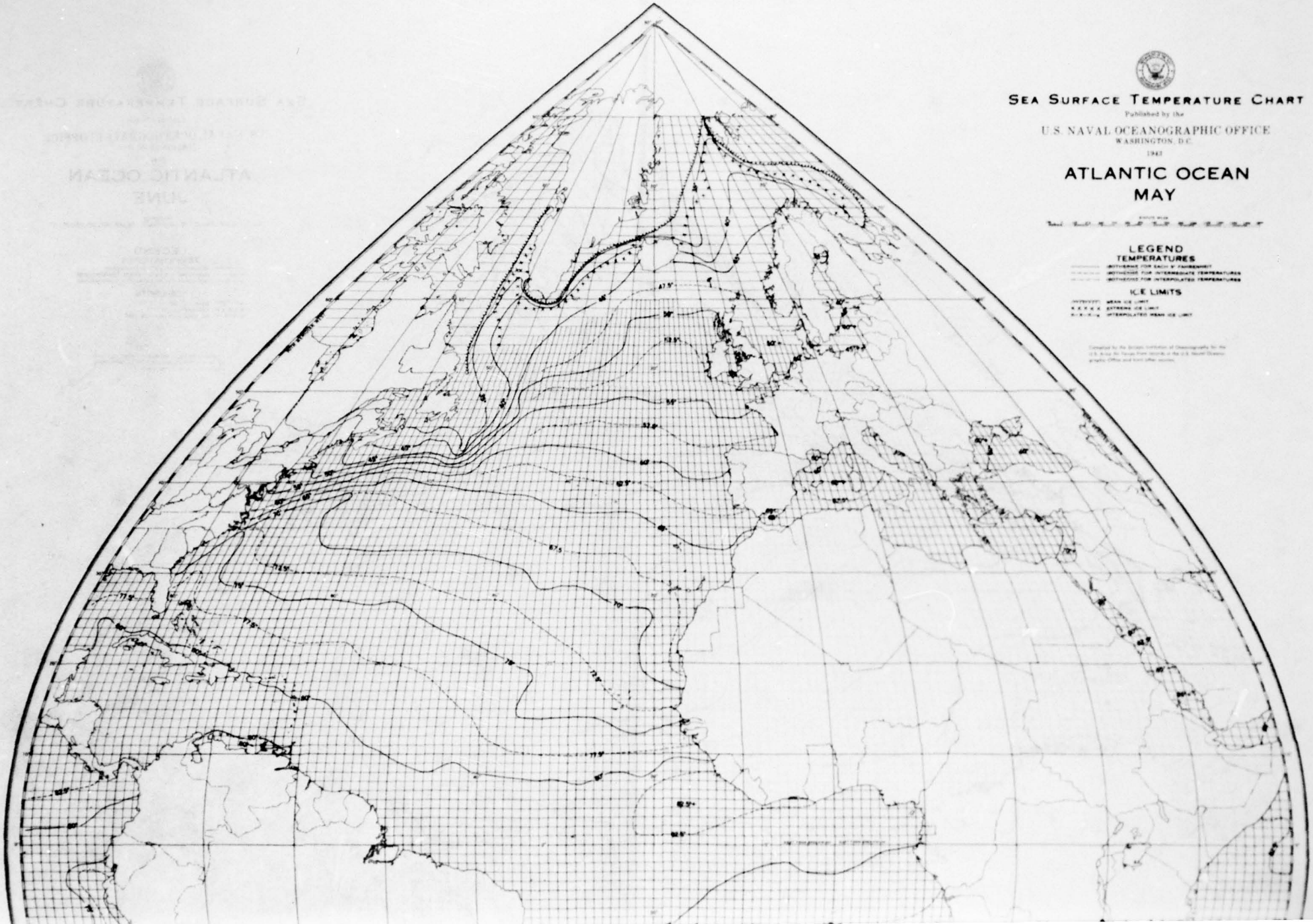

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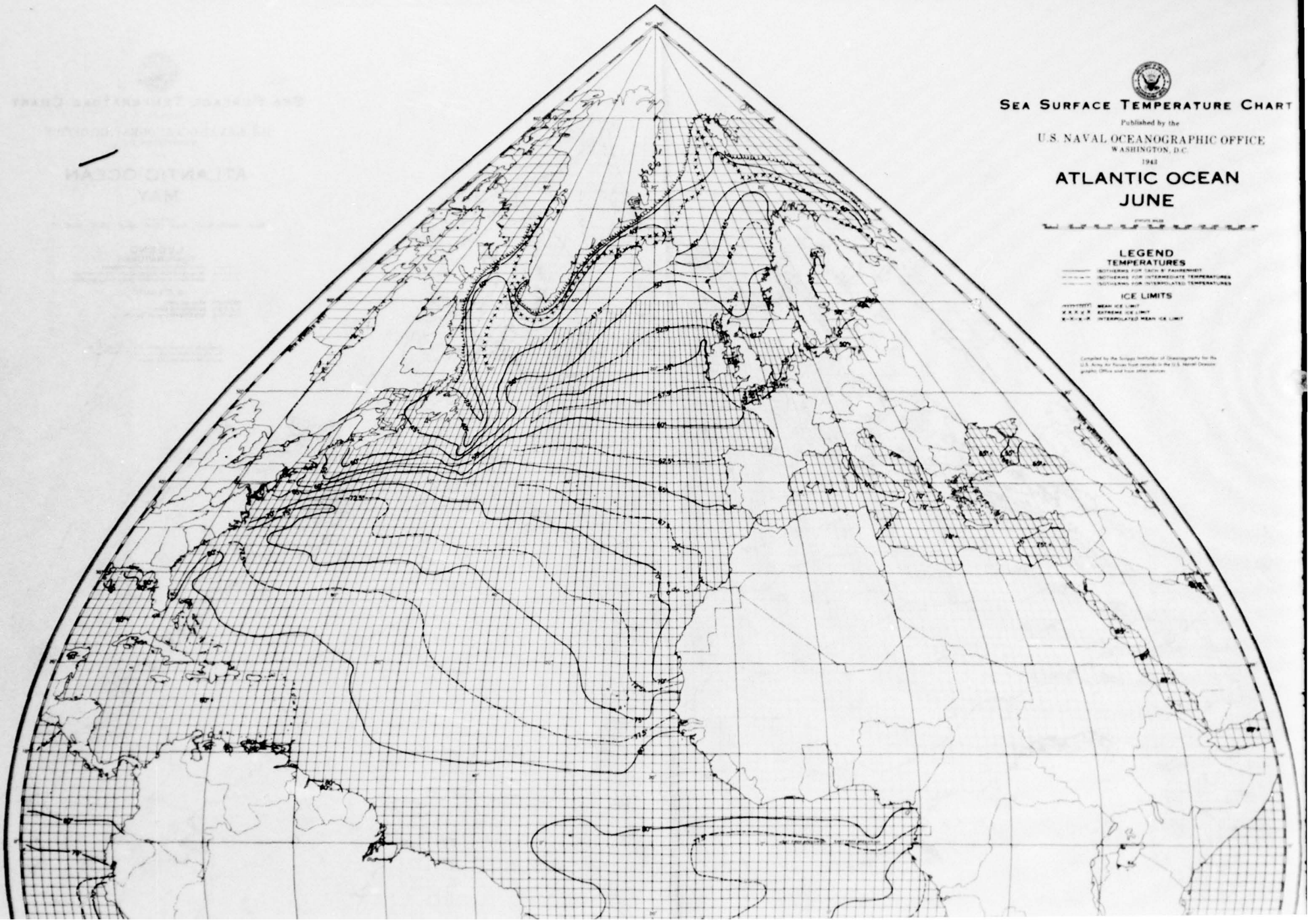

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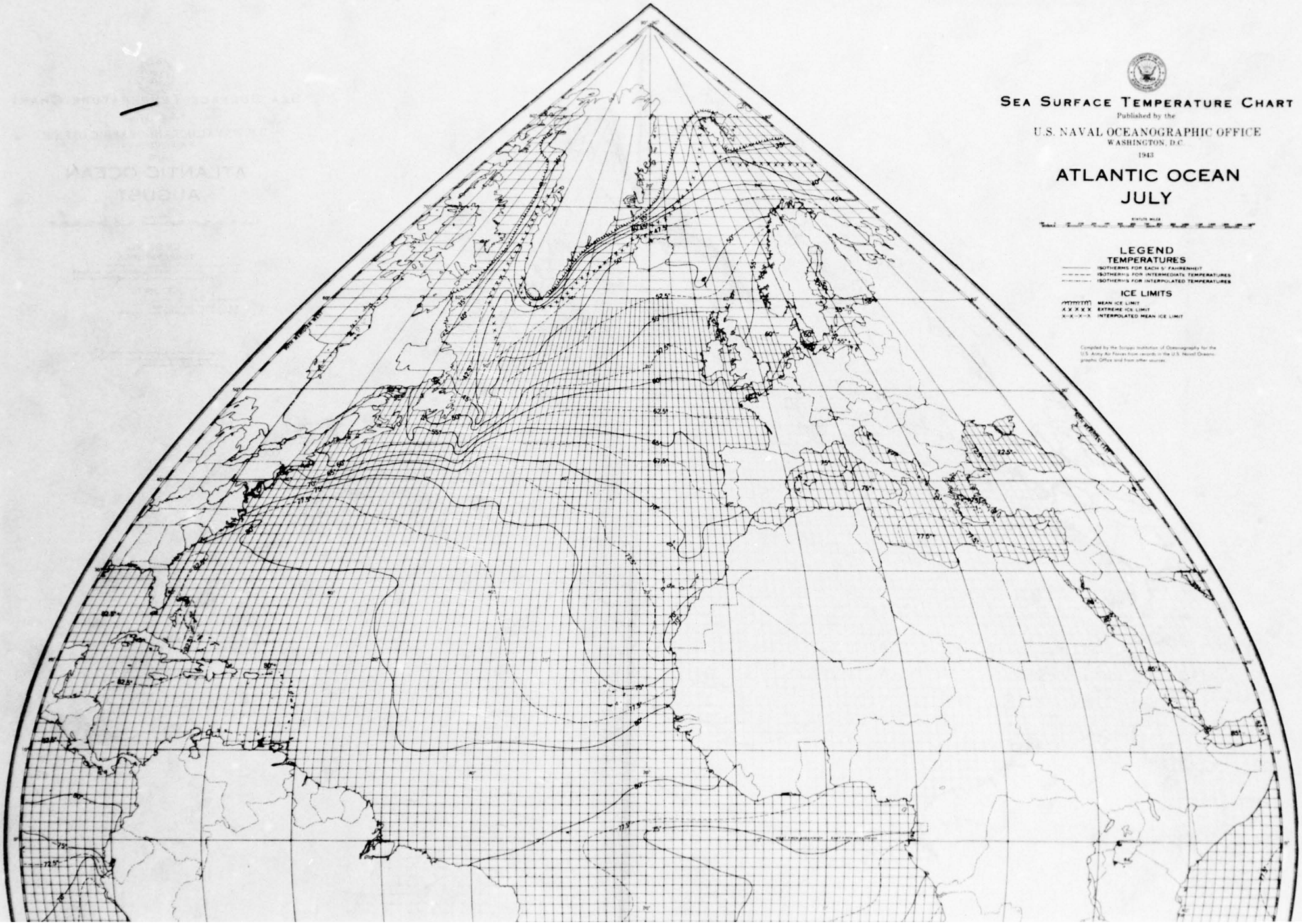

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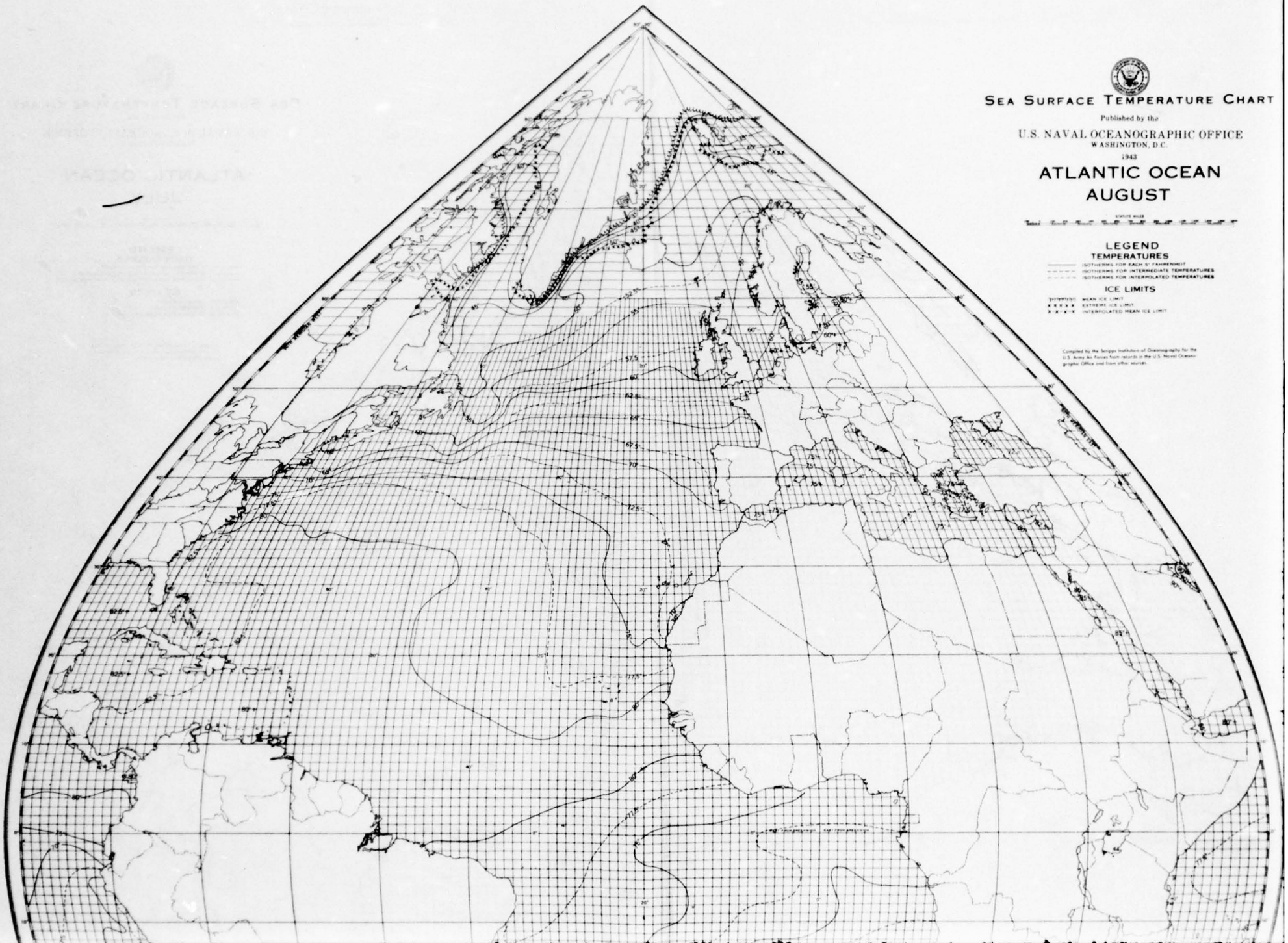

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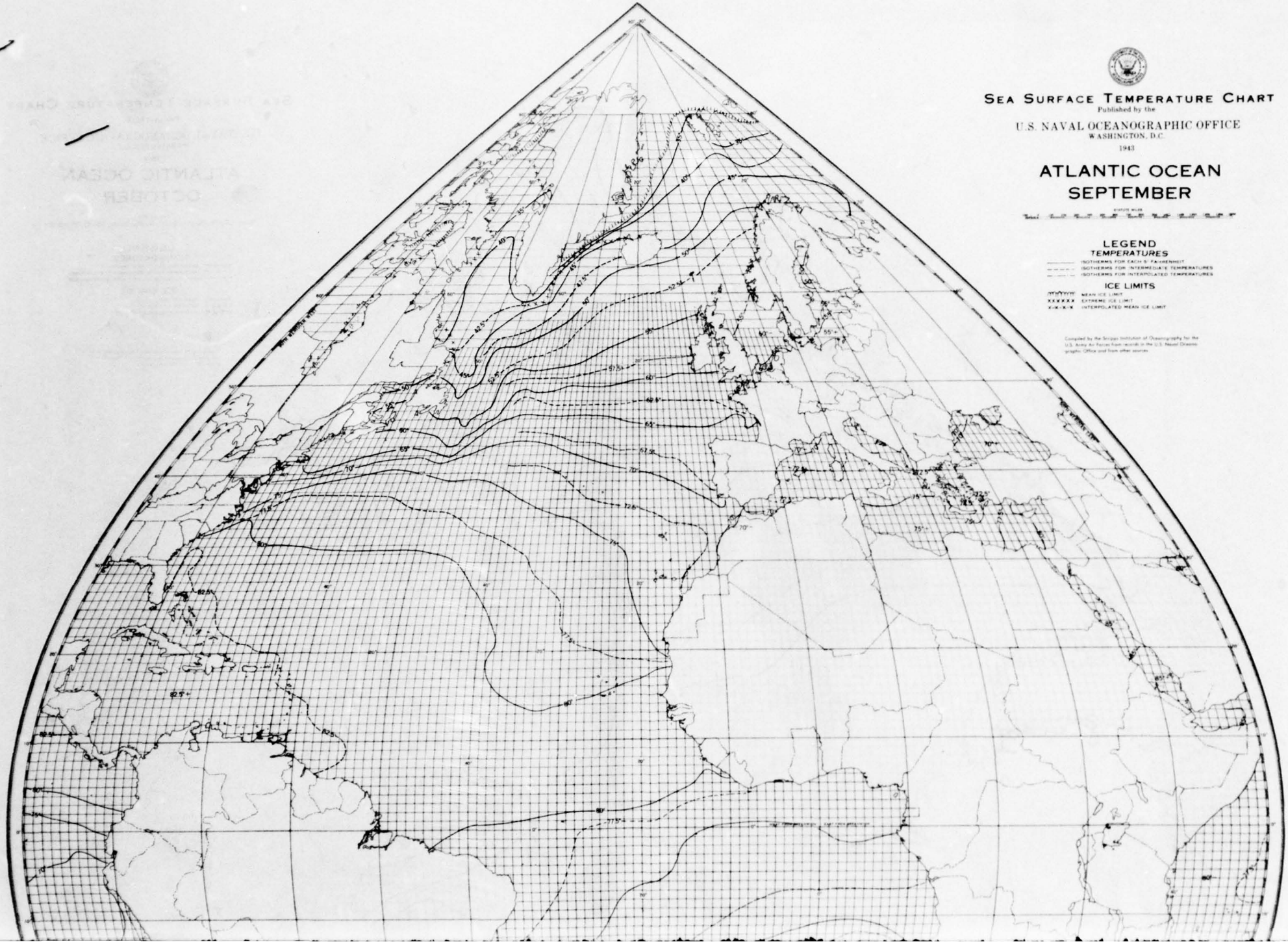

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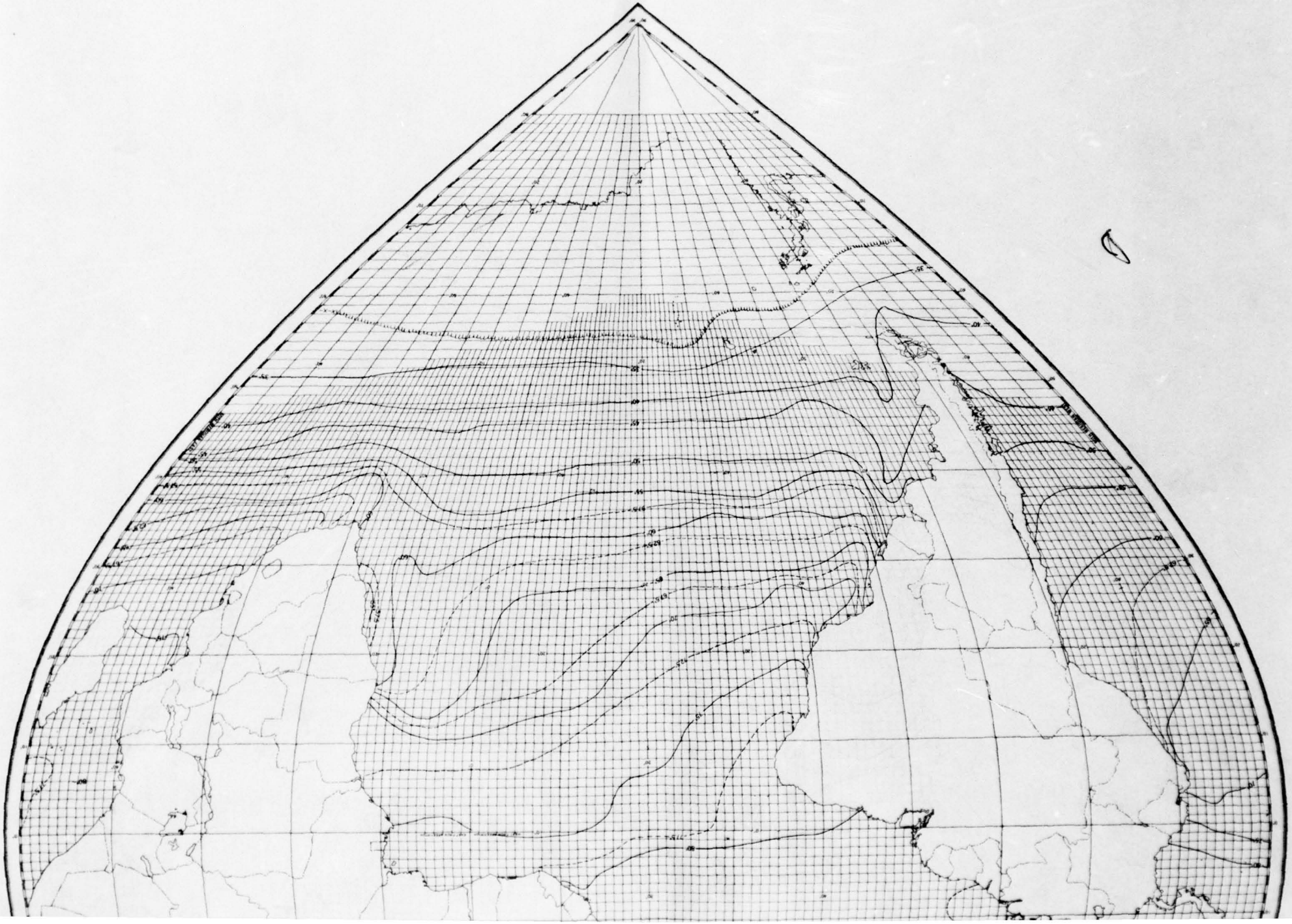

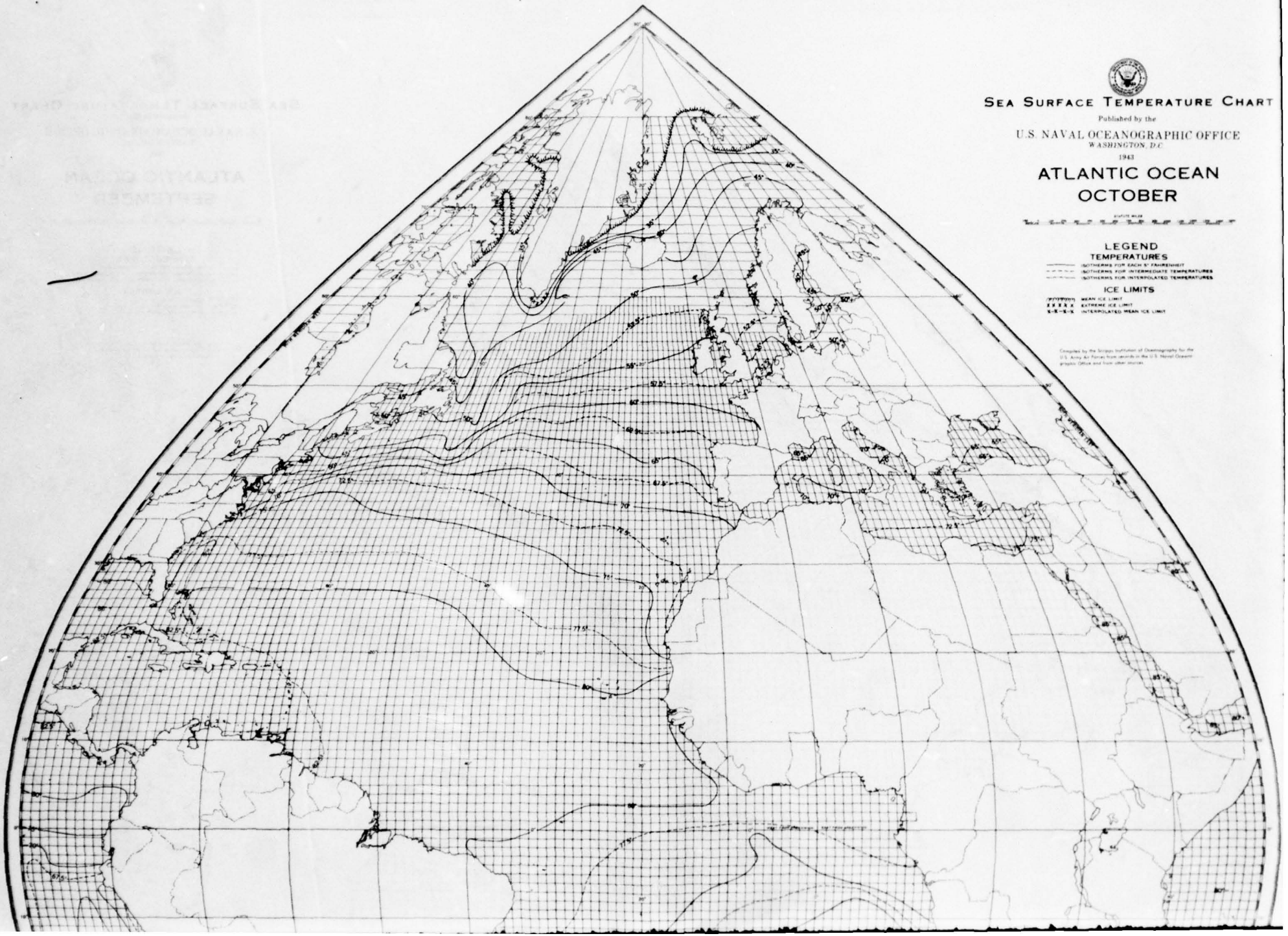

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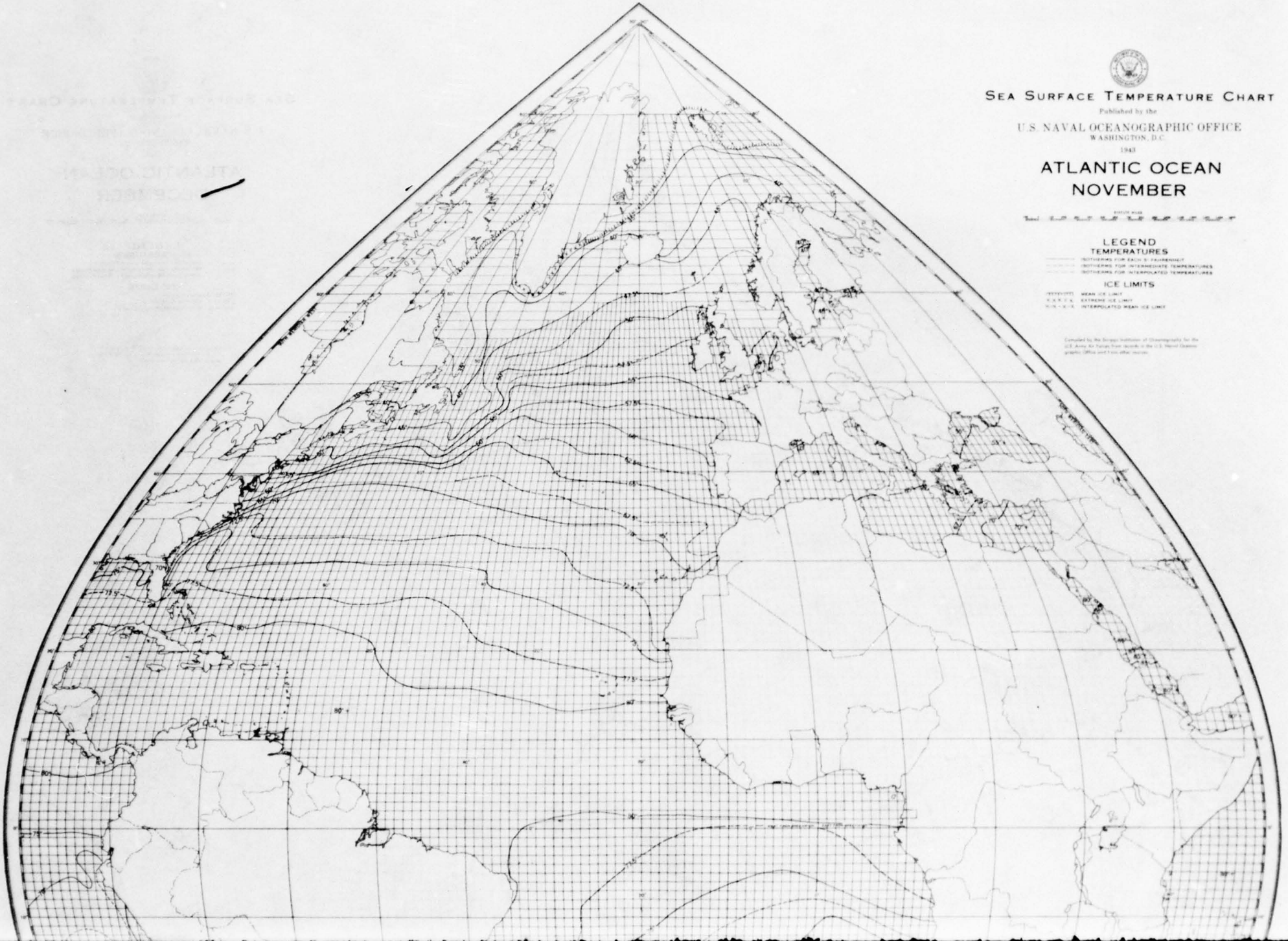

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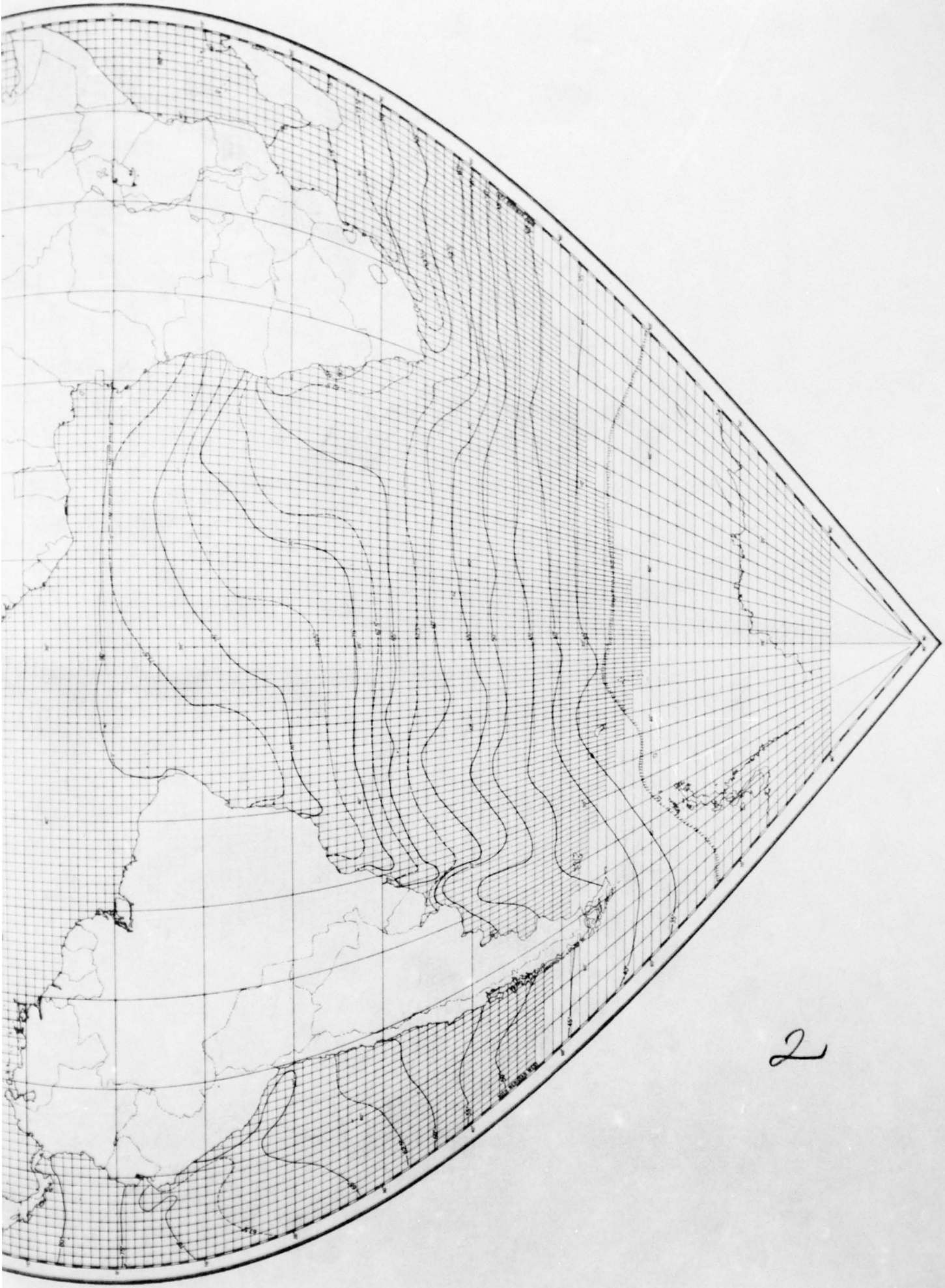

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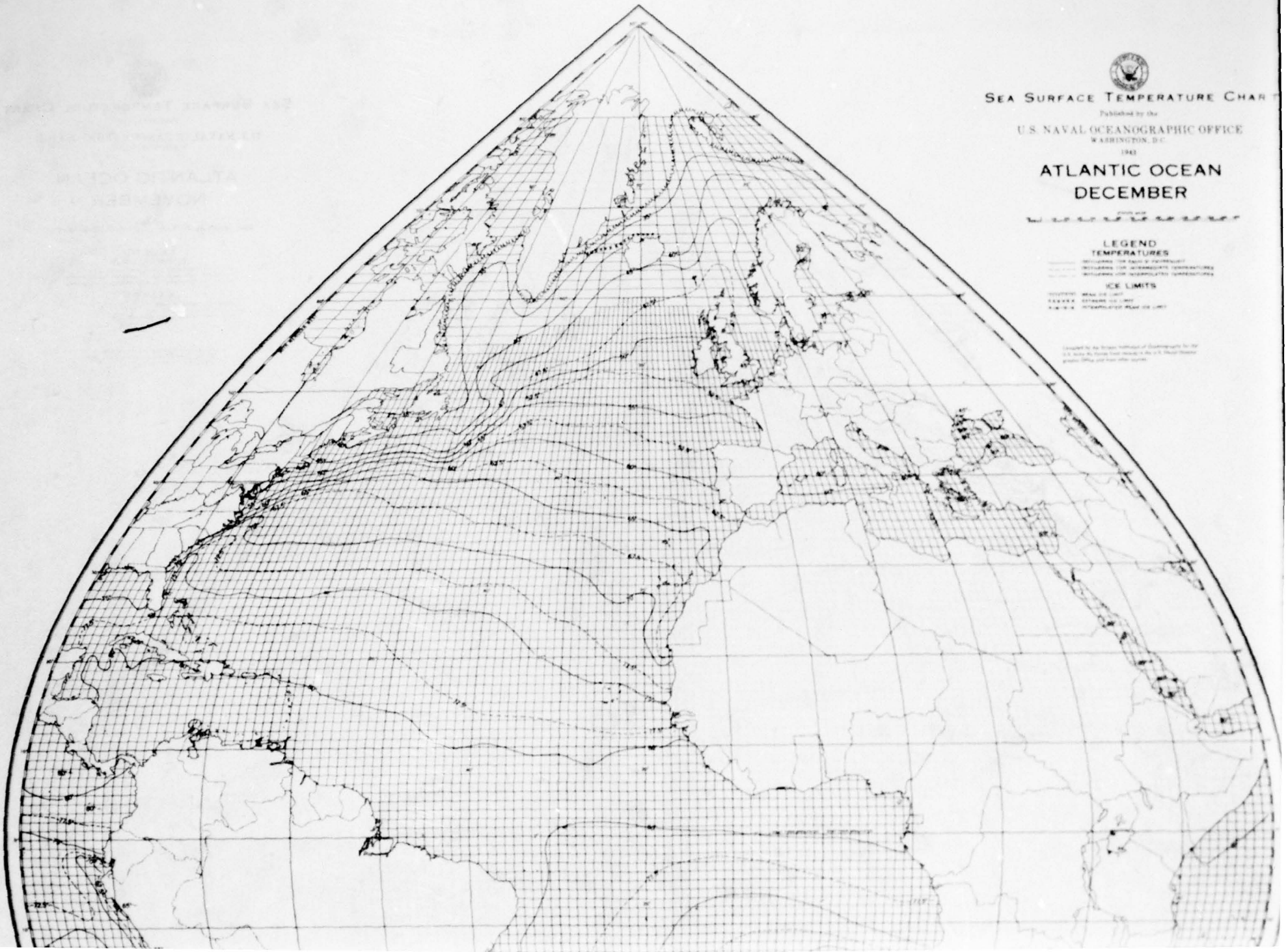

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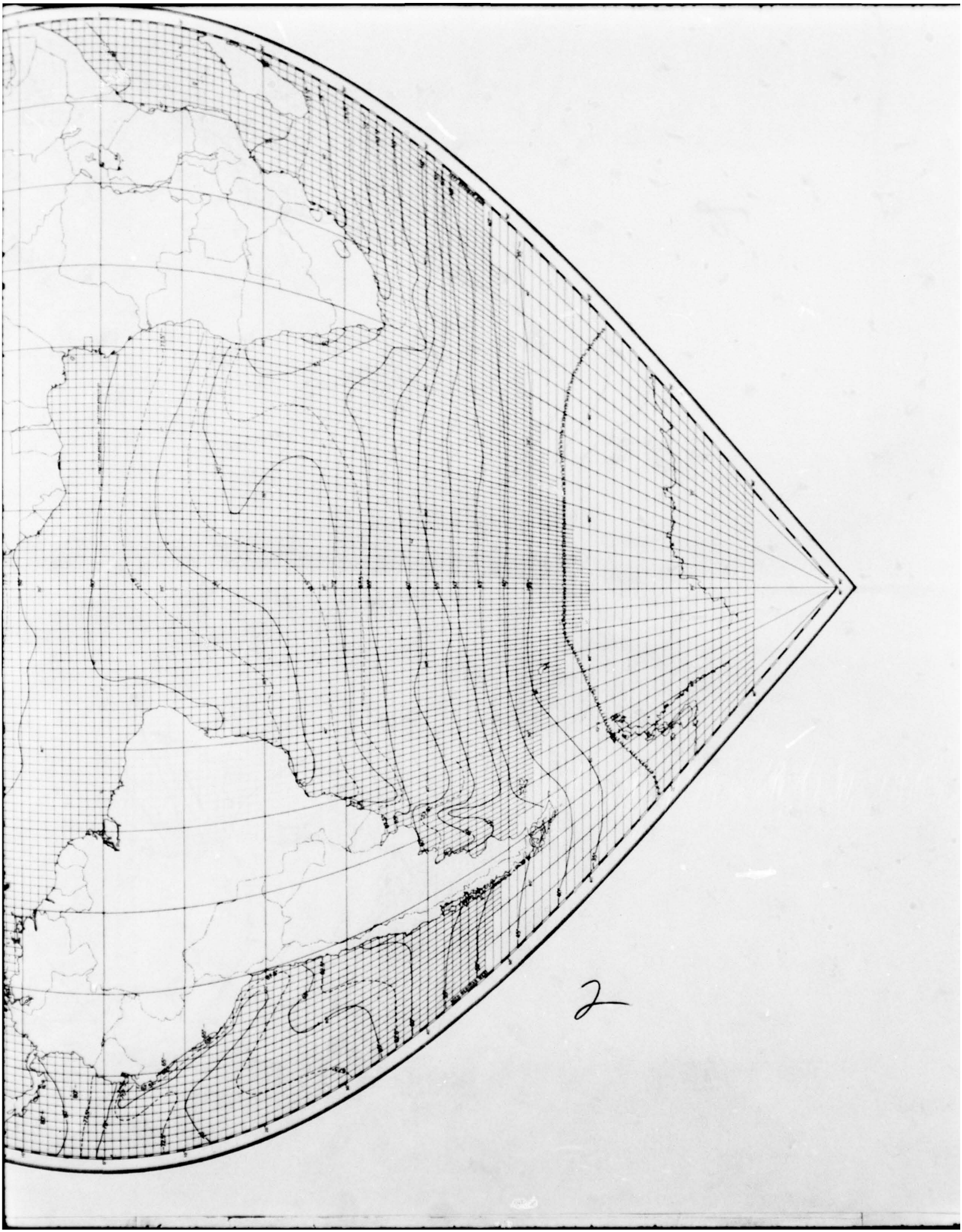

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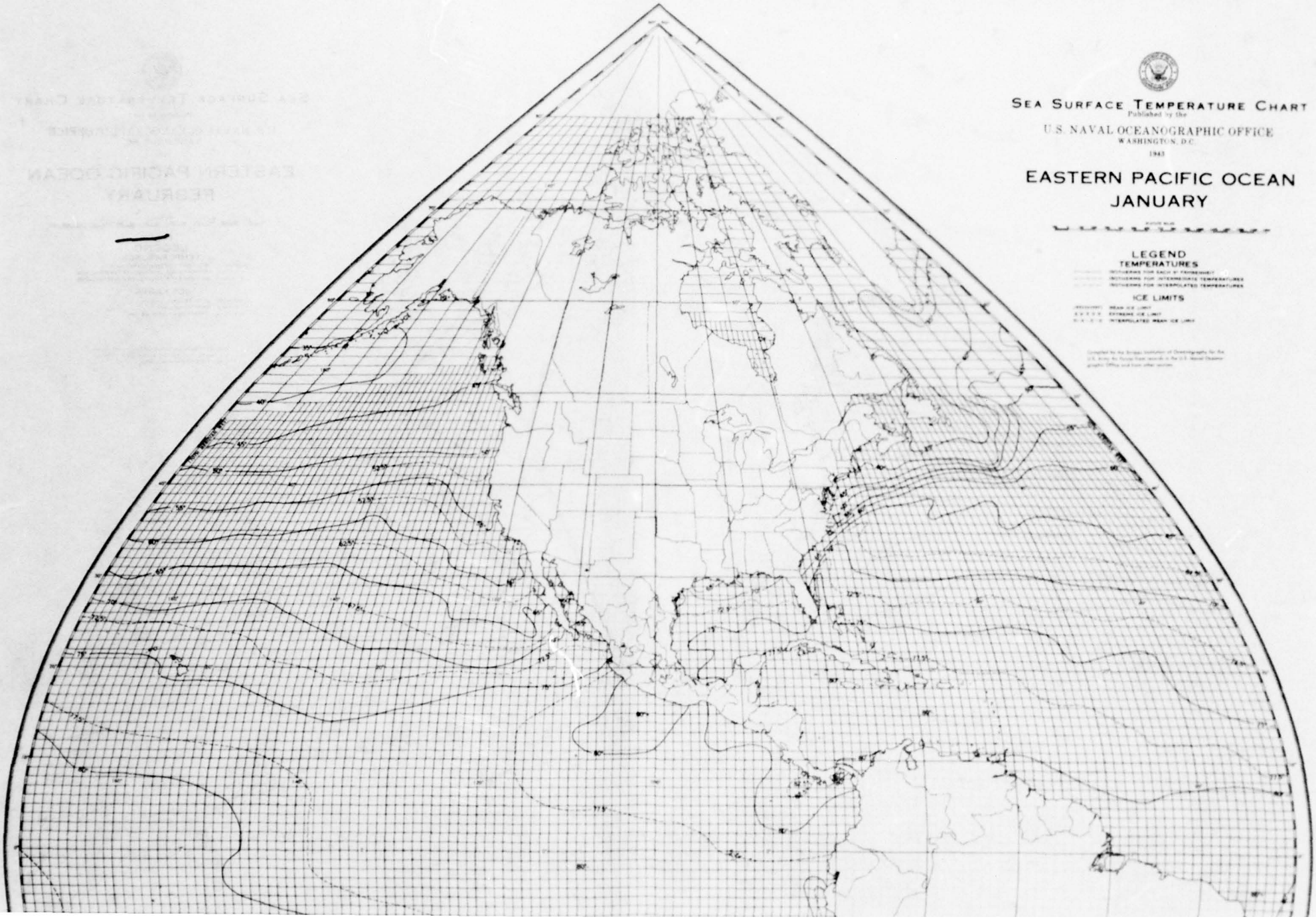

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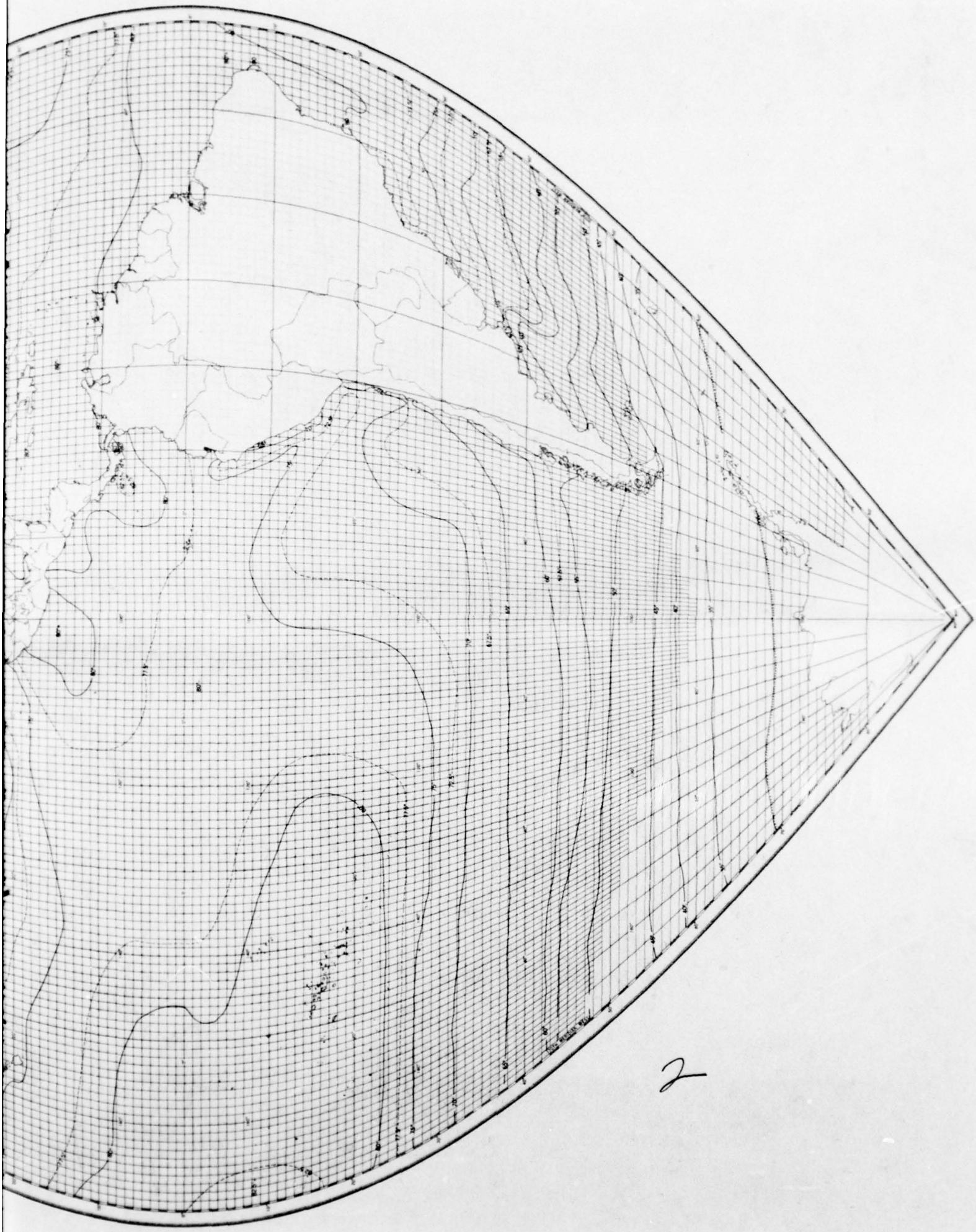

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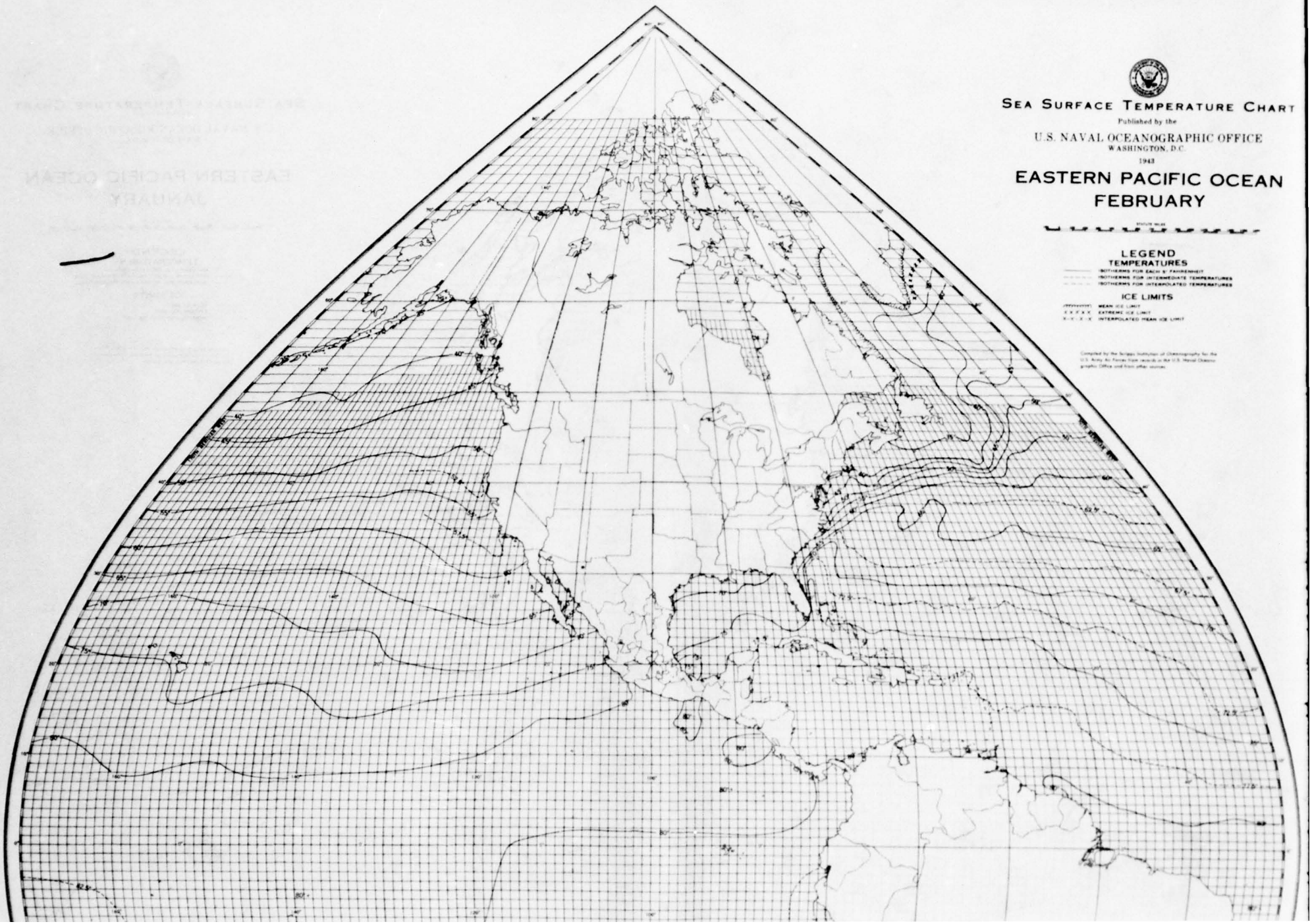
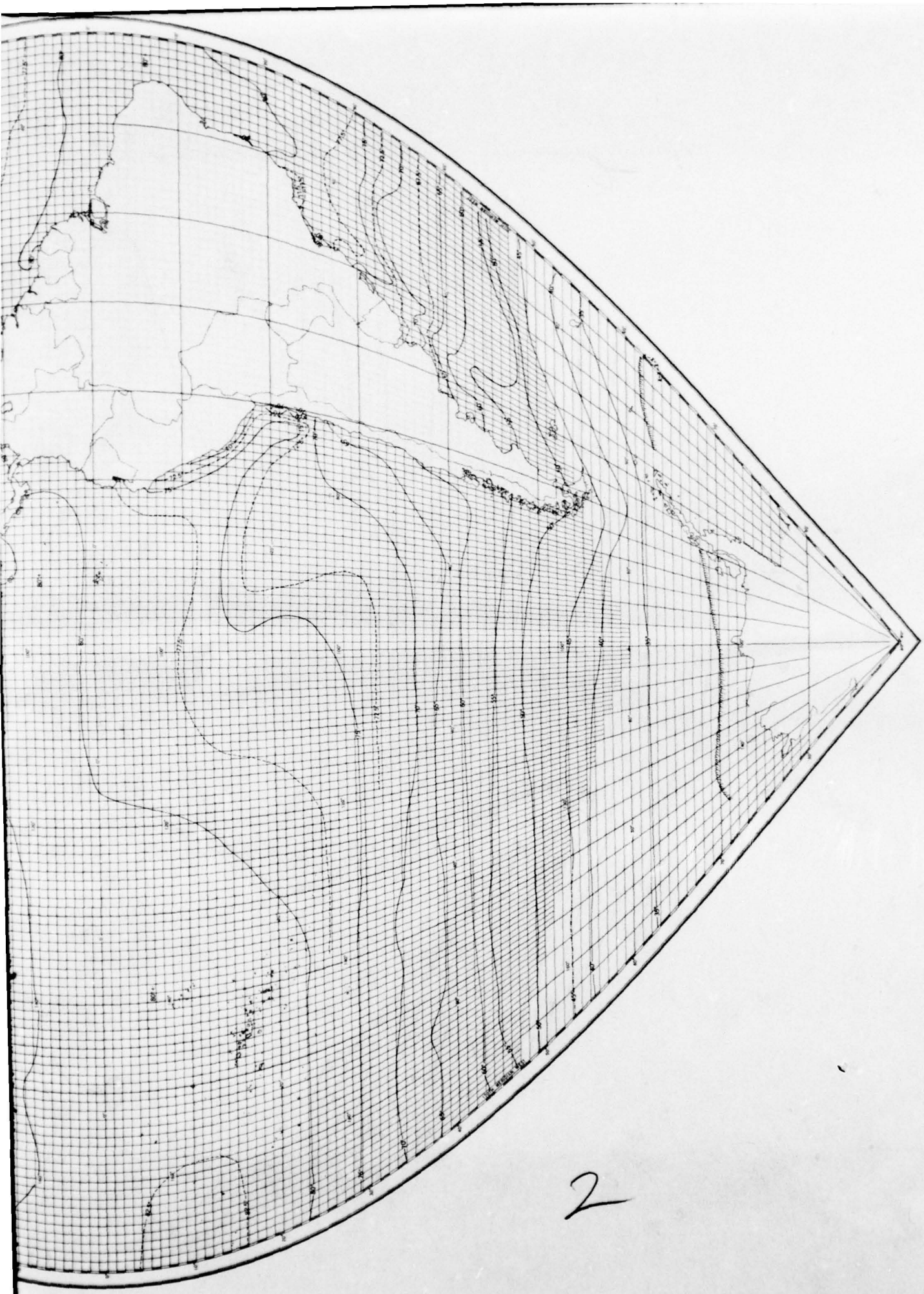

SEA SURFACE TEMPERATURE CHART
Published by the
U.S. NAVAL OCEANOGRAPHIC OFFICE
WASHINGTON, D.C.
1943
EASTERN PACIFIC OCEAN
FEBRUARY
LEGEND
TEMPERATURES
ISOTHERMS FOR EACH 5° FAHRENHEIT
ISOTHERMS FOR INTERMEDIATE TEMPERATURES
ISOTHERMS FOR INTERPOLATED TEMPERATURES
ICE LIMITS
MEAN ICE LIMIT
EXTREME ICE LIMIT
INTERPOLATED MEAN ICE LIMIT



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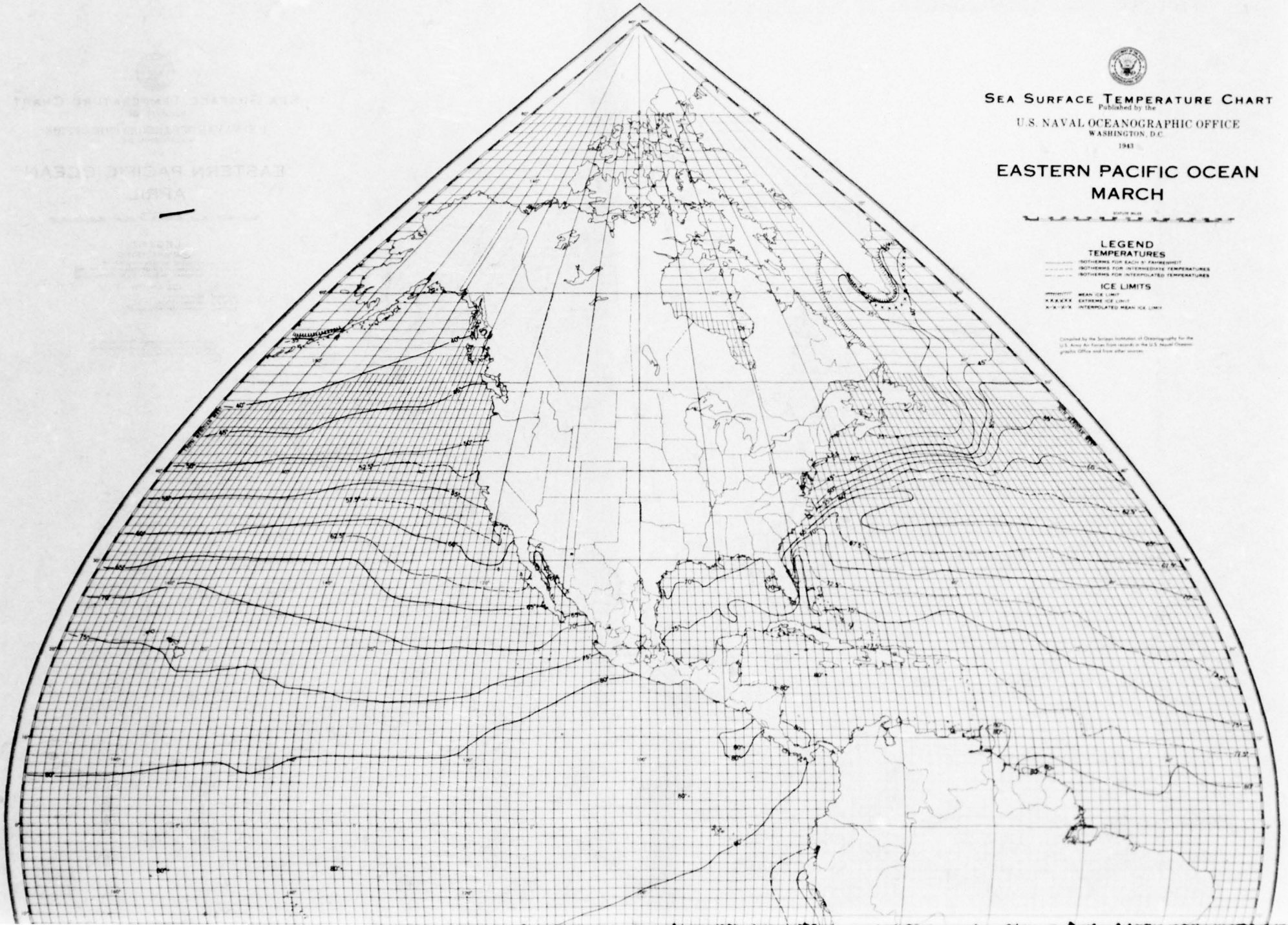


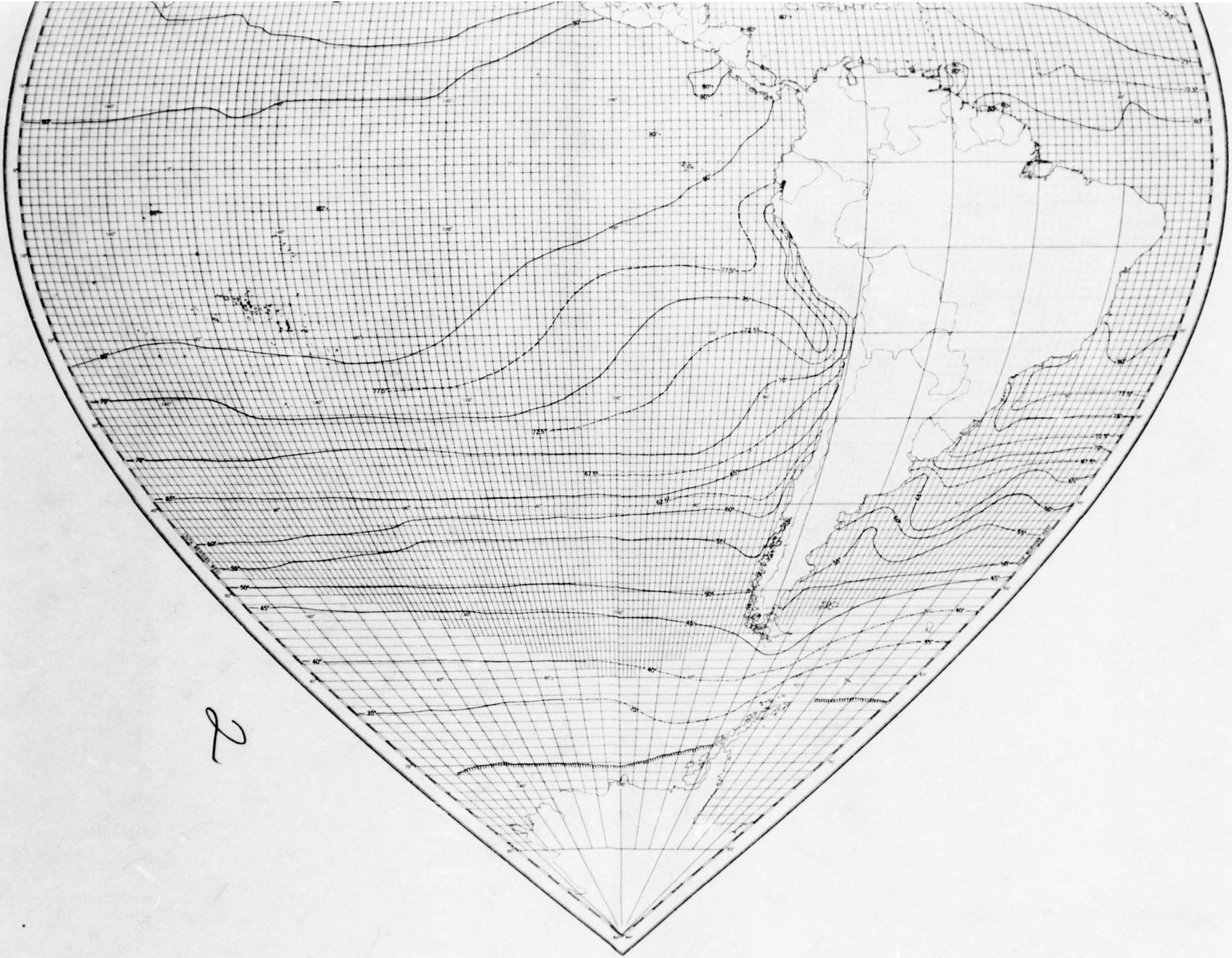
SEA SURFACE TEMPERATURE CHART
Published by the
U.S. NAVAL OCEANOGRAPHIC OFFICE
WASHINGTON, D.C.
1943

EASTERN PACIFIC OCEAN
MARCH

LEGEND
TEMPERATURES
ISOTHERMS FOR EACH 5° FAHRENHEIT
ISOTHERMS FOR INTERMEDIATE TEMPERATURES
ISOTHERMS FOR INTERPOLATED TEMPERATURES

ICE LIMITS
MEAN ICE LIMIT
EXTREME ICE LIMIT
INTERPOLATED MEAN ICE LIMIT

Compiled by the Scripps Institution of Oceanography for the U.S. Army Air Forces from records in the U.S. Naval Oceanographic Office and from other sources.



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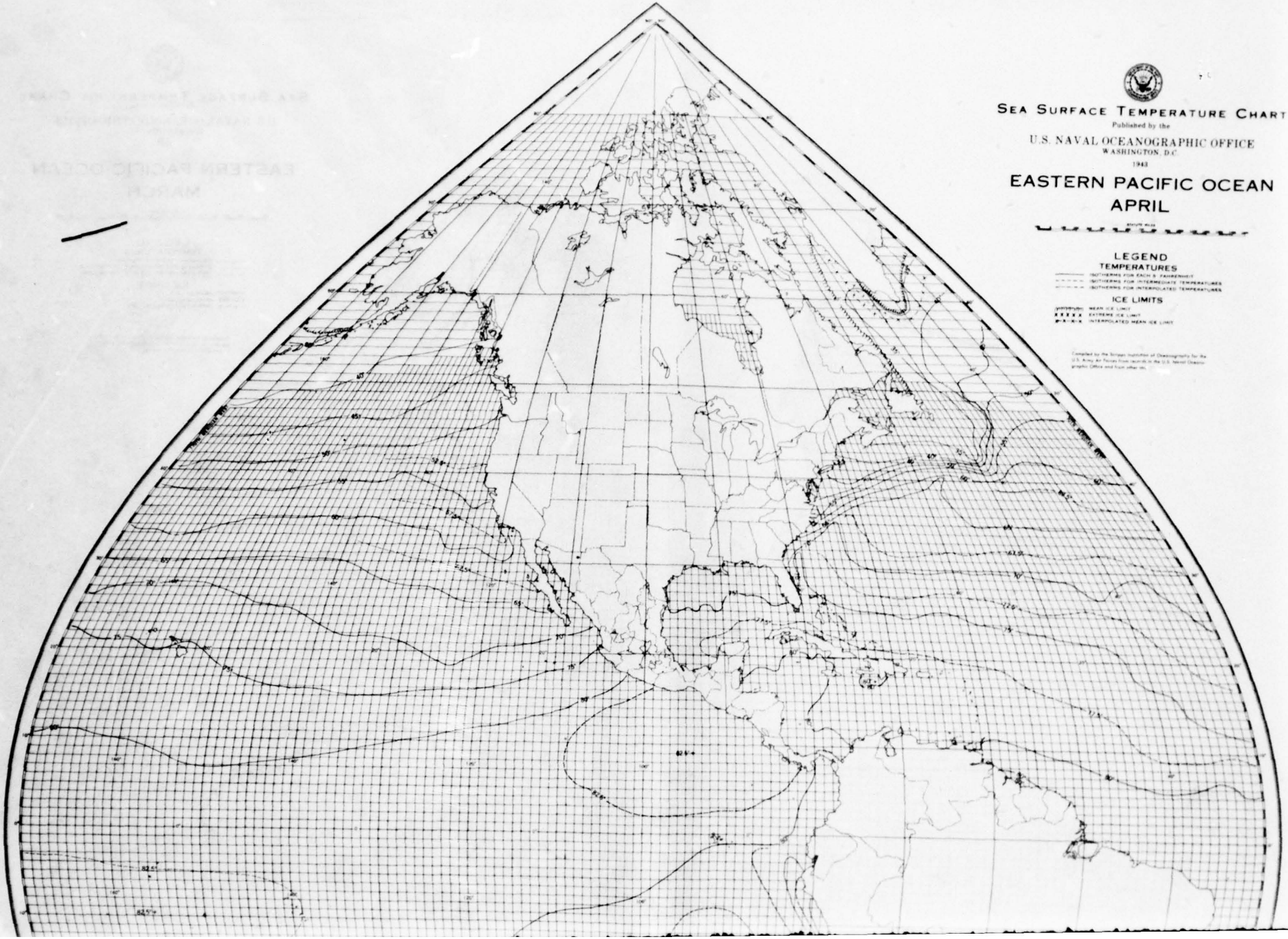

SEA SURFACE TEMPERATURE CHART

Published by the

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WASHINGTON, D.C.

1948

EASTERN PACIFIC OCEAN APRIL

LEGEND

TEMPERATURES

ISOTHERMS FOR EACH 5 FAHRENHEIT

ISOTHERMS FOR INTERMEDIATE TEMPERATURES

ISOTHERMS FOR INTERPOLATED TEMPERATURES

ICE LIMITS

MEAN ICE LIMIT

EXTREME ICE LIMIT

INTERPOLATED MEAN ICE LIMIT

Compiled by the Scripps Institution of Oceanography for the U.S. Army Air Forces from records in the U.S. Naval Oceanographic Office and from other sources.

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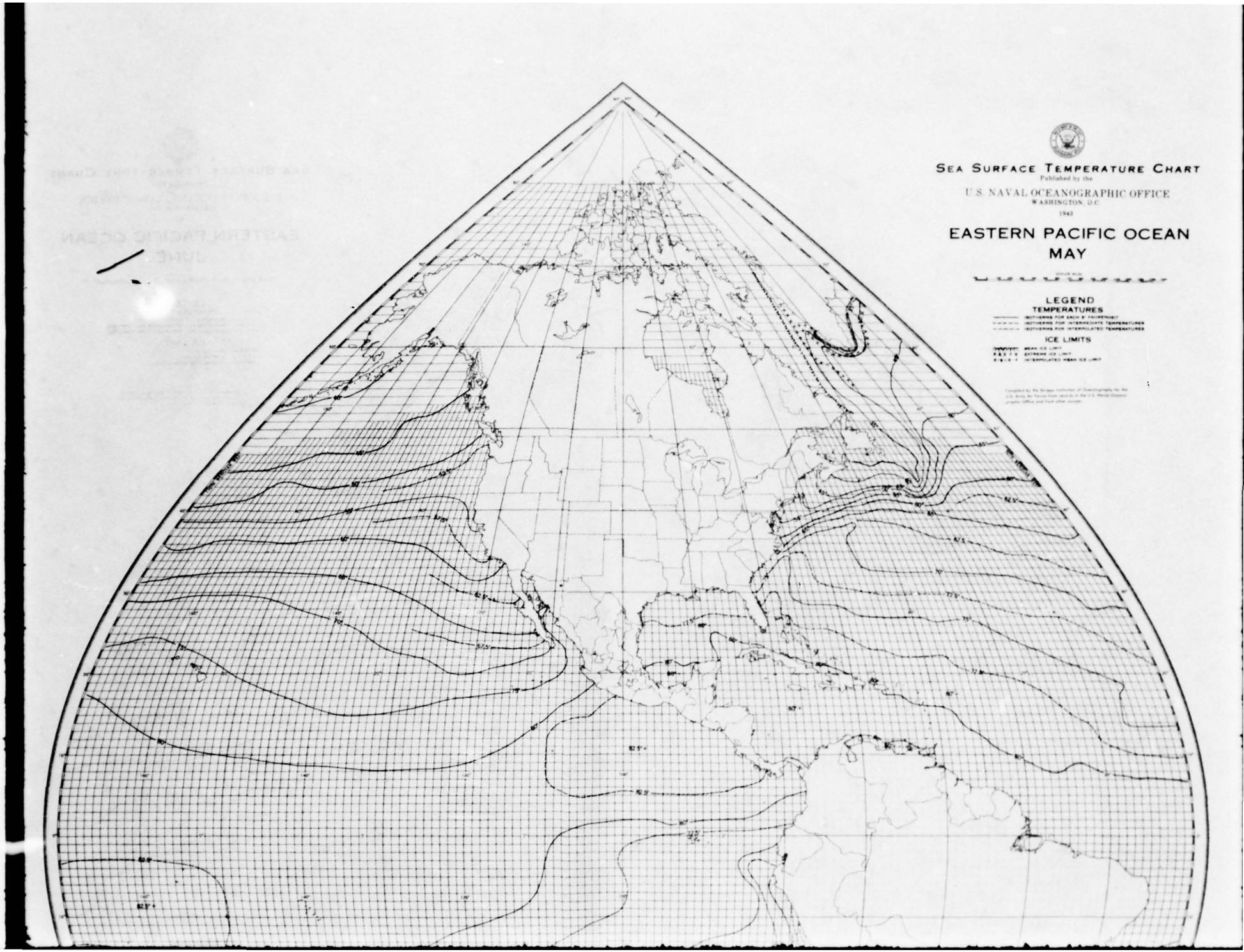
SEA SURFACE TEMPERATURE CHART
Published by the
U.S. NAVAL OCEANOGRAPHIC OFFICE
WASHINGTON, D.C.
1943
EASTERN PACIFIC OCEAN
MAY
LEGEND
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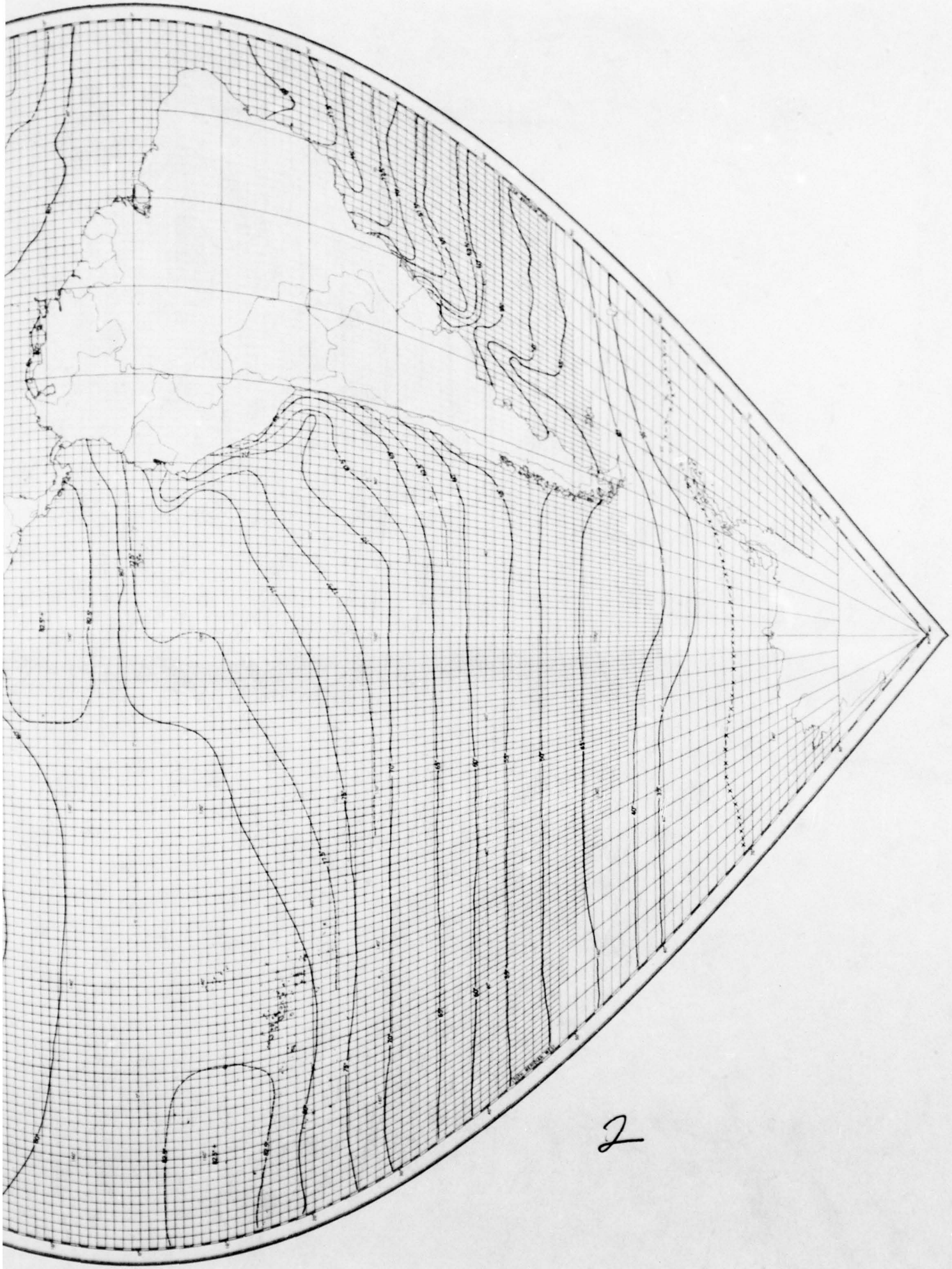
ISOTHERMS FOR INTERMEDIATE TEMPERATURES
ISOTHERMS FOR INTERPOLATED TEMPERATURES
ICE LIMITS
MEAN ICE LIMIT
EXTREME ICE LIMIT
INTERPOLATED MEAN ICE LIMIT



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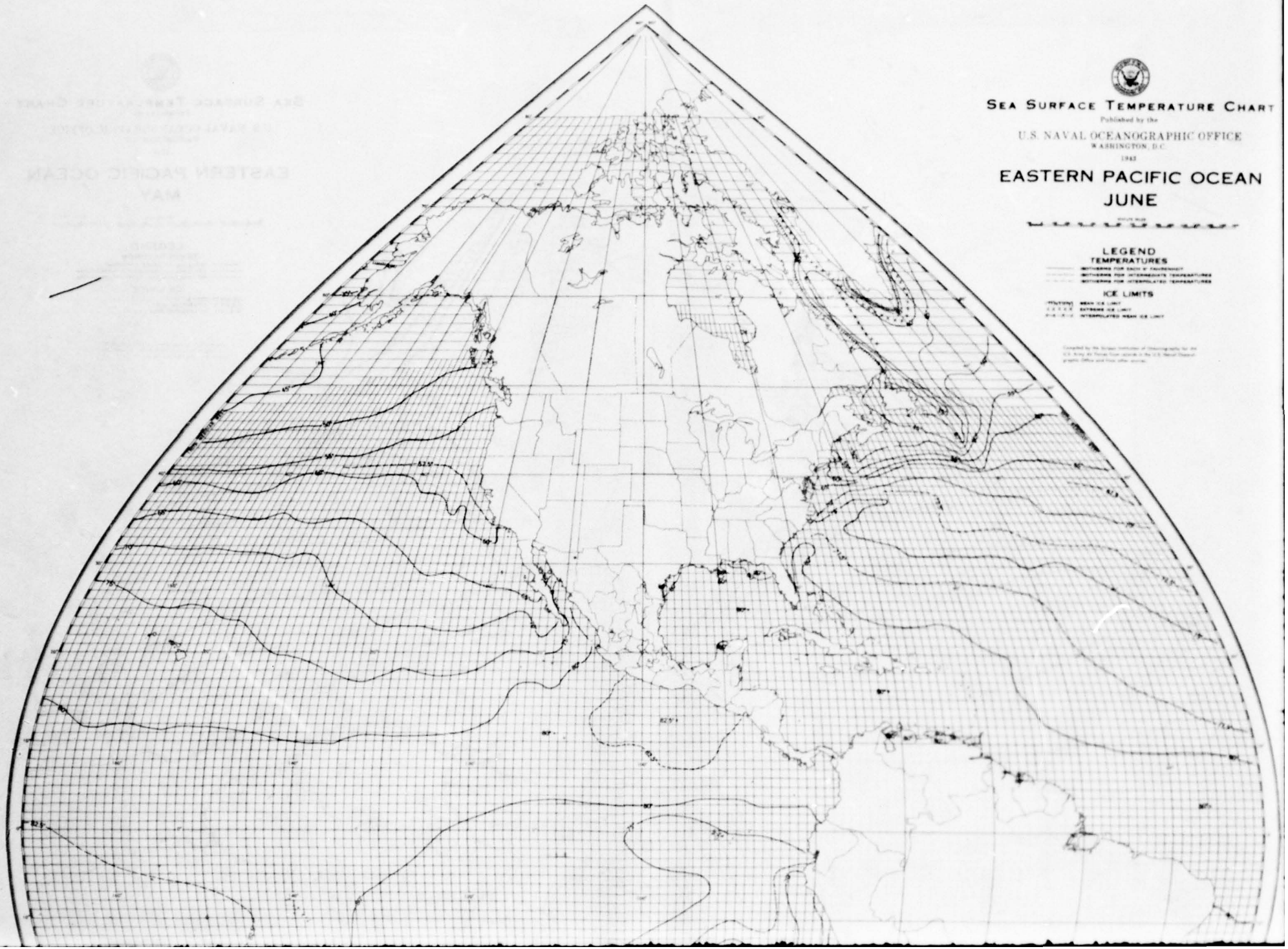
SEA SURFACE TEMPERATURE CHART
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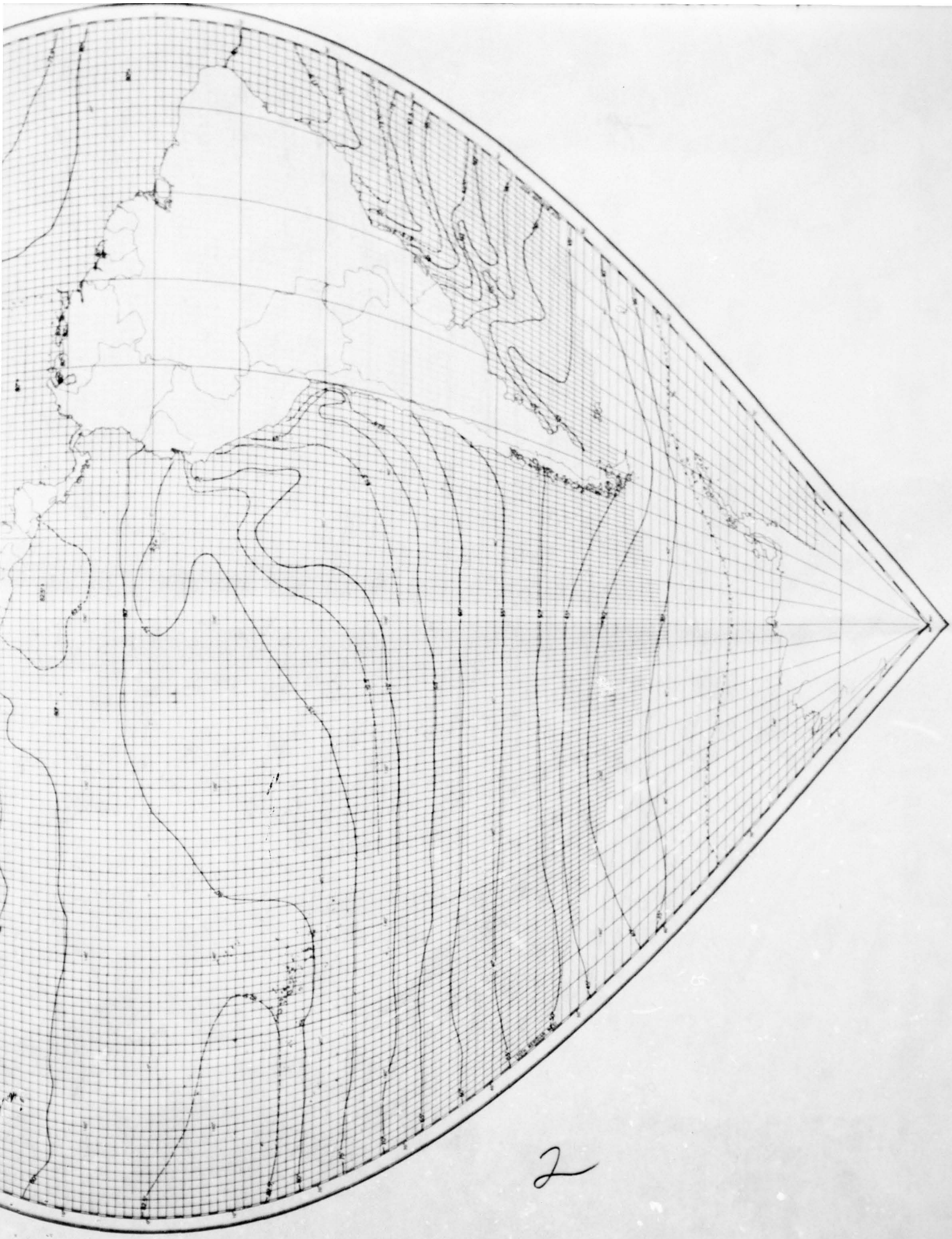
U.S. NAVAL OCEANOGRAPHIC OFFICE
WASHINGTON, D.C.
1943
EASTERN PACIFIC OCEAN
JUNE
LEGEND
TEMPERATURES
ICE LIMITS



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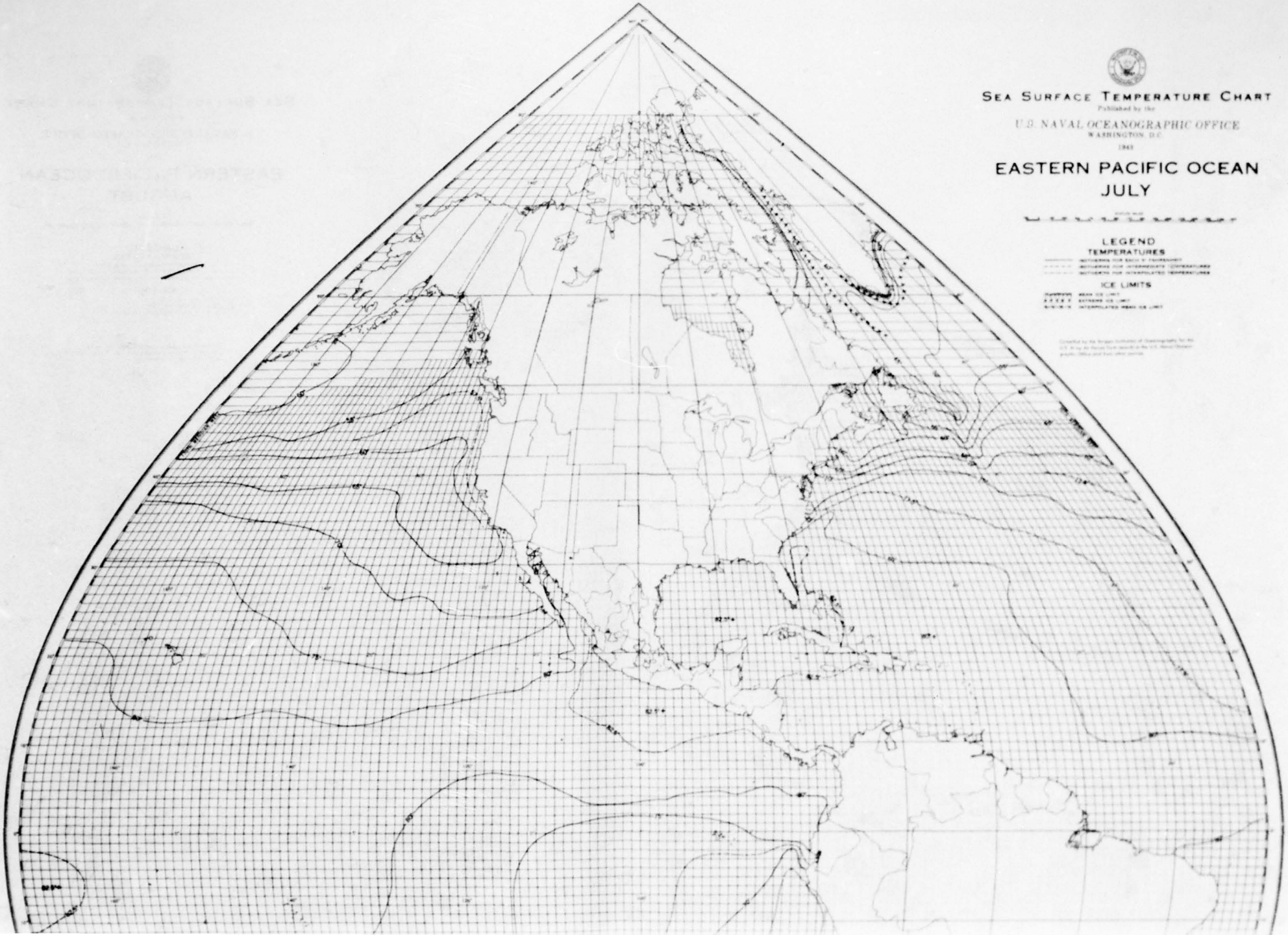


SEA SURFACE TEMPERATURE CHART

Published by the

U.S. NAVAL OCEANOGRAPHIC OFFICE

WASHINGTON, D.C.

1943

EASTERN PACIFIC OCEAN
JULY

LEGEND

TEMPERATURES

ISOTHERMS FOR EACH 5° FAHRENHEIT

ISOTHERMS FOR INTERMEDIATE TEMPERATURES

ISOTHERMS FOR INTERPOLATED TEMPERATURES

ICE LIMITS

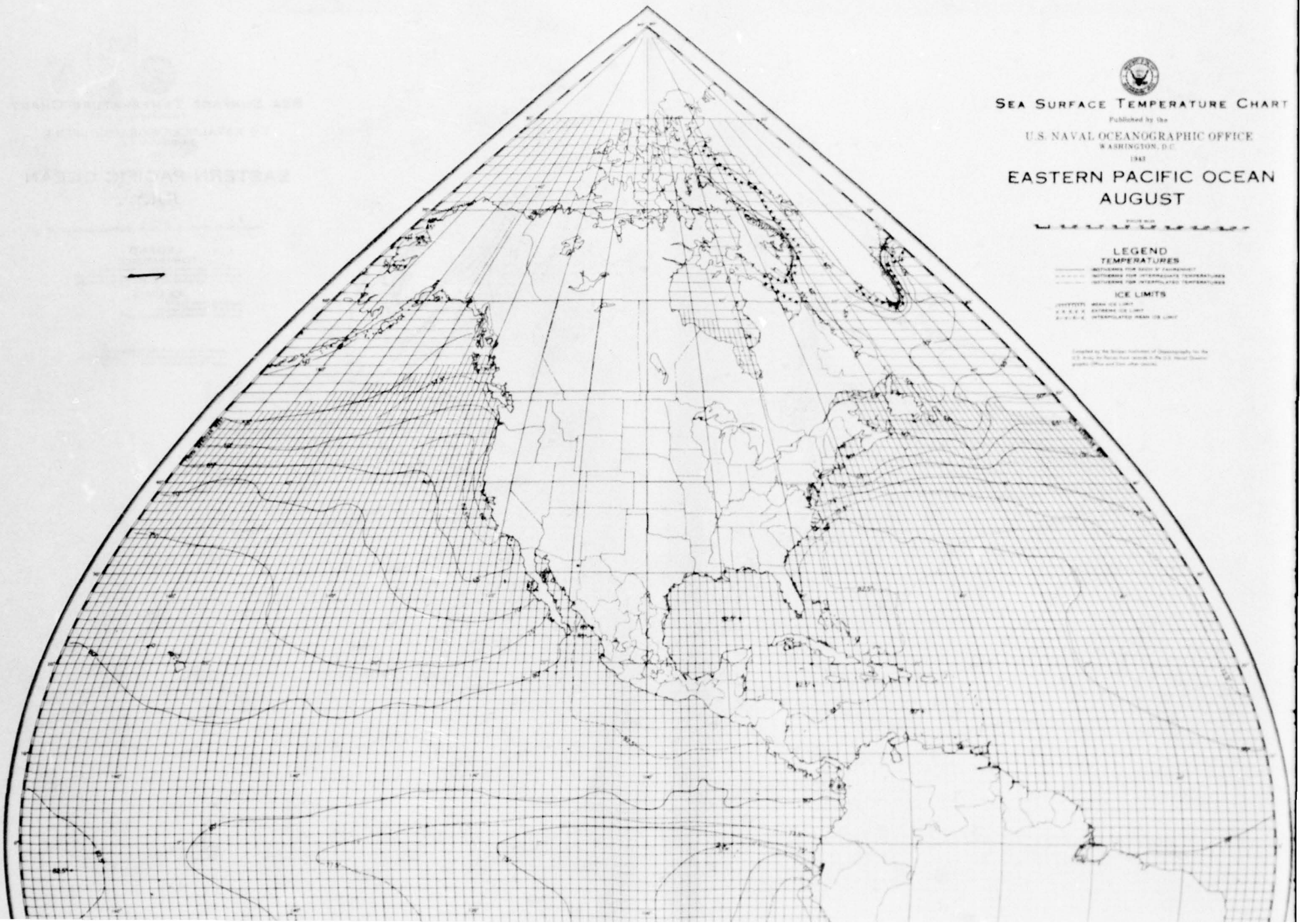
MEAN ICE LIMIT

EXTREME ICE LIMIT

INTERPOLATED MEAN ICE LIMIT

Compiled by the Scripps Institution of Oceanography for the U.S. Navy Hydrographic Office, specially for the U.S. Naval Oceanographic Office and has been adapted.

2



SEA SURFACE TEMPERATURE CHART

Published by the

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WASHINGTON, D.C.

1941

EASTERN PACIFIC OCEAN
AUGUST

LEGEND

TEMPERATURES

ISOTHERMS FOR SERIES OF FAHRENHEIT

ISOTHERMS FOR INTERMEDIATE TEMPERATURES

ISOTHERMS FOR INTERPOLATED TEMPERATURES

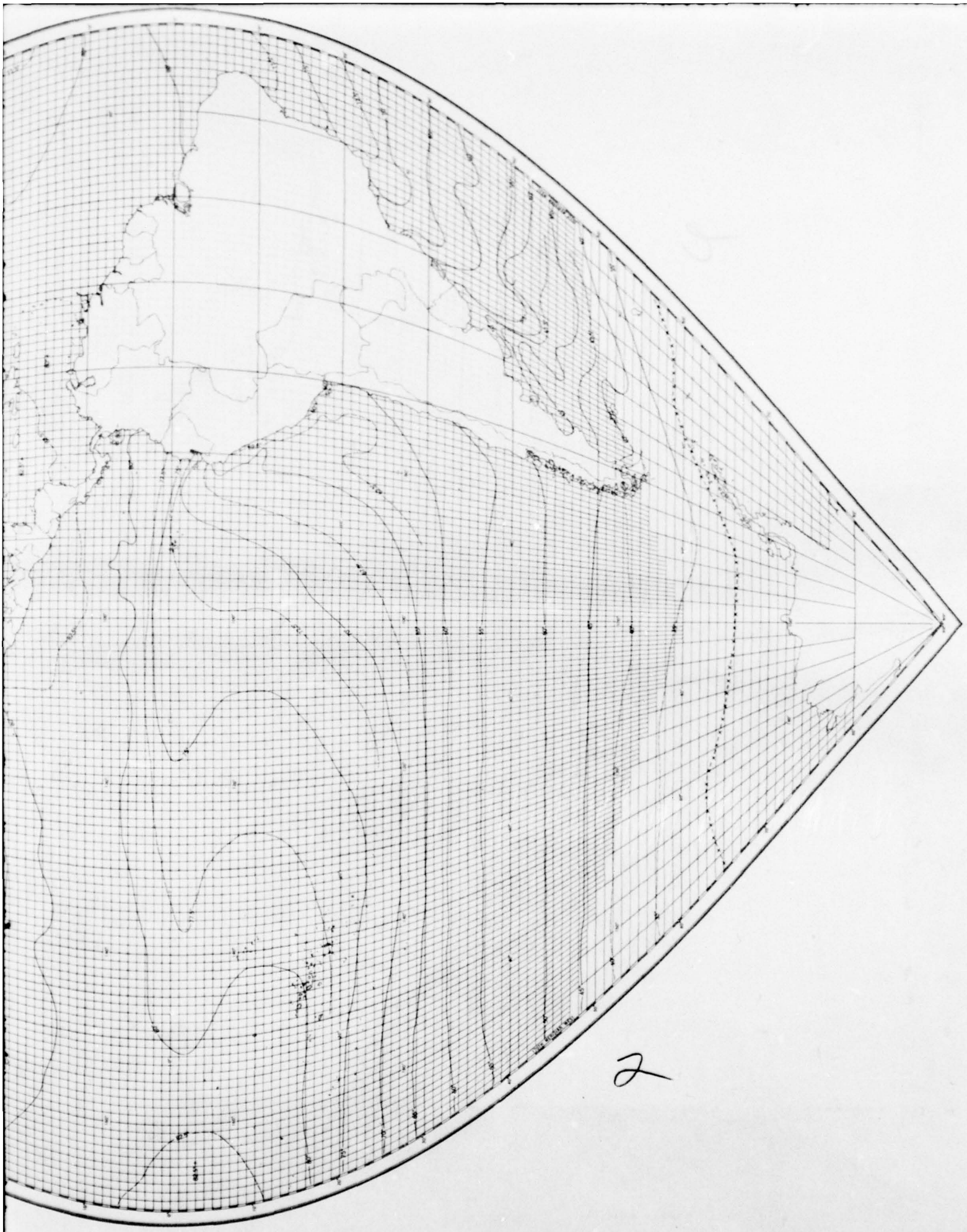
ICE LIMITS

MEAN ICE LIMIT

EXTREME ICE LIMIT

INTERPOLATED MEAN ICE LIMIT

Compiled by the Scripps Institution of Oceanography for the U.S. Army, the Navy from records in the U.S. Hydrographic Office and from other records.



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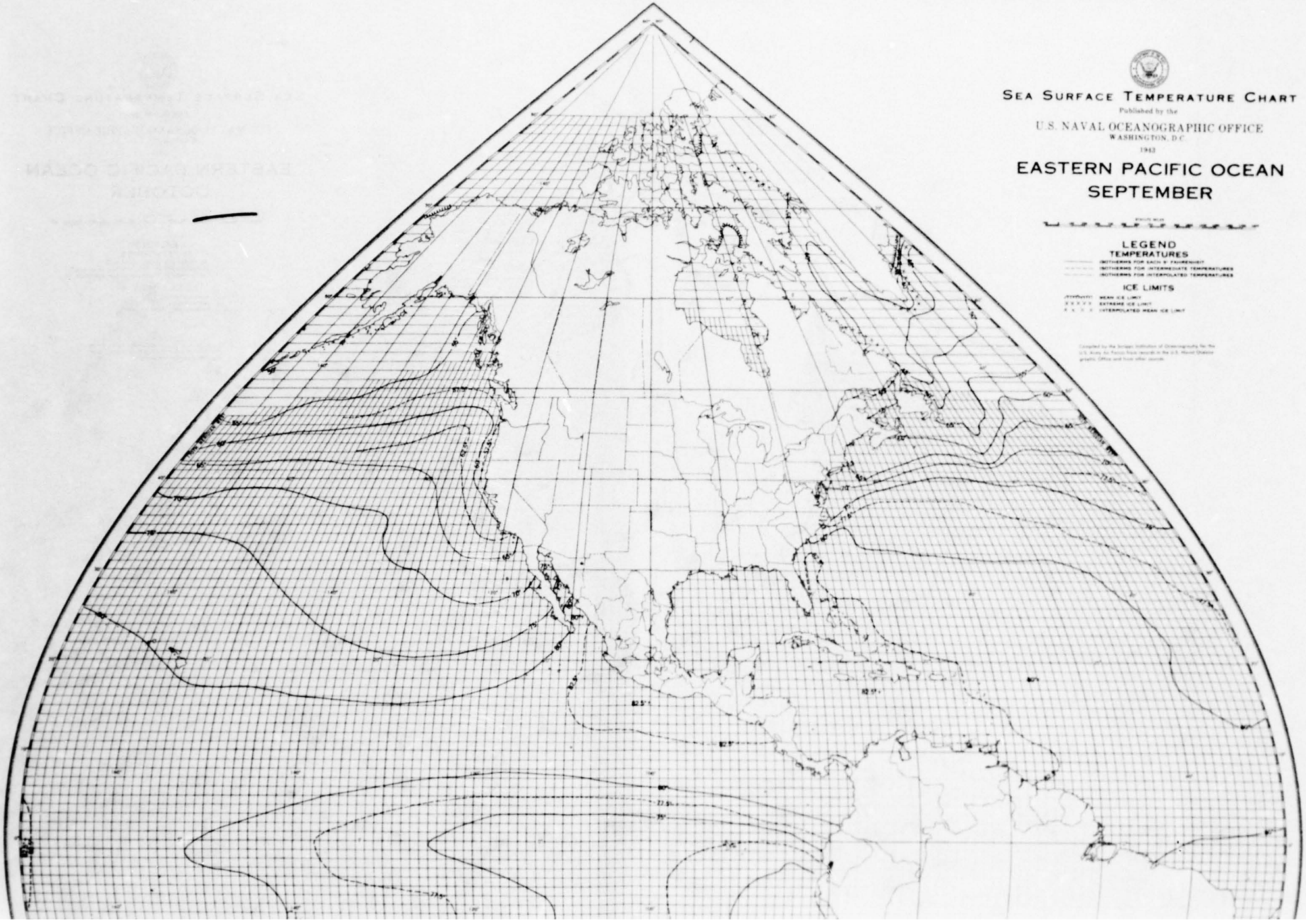

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WASHINGTON, D.C.

1963

EASTERN PACIFIC OCEAN SEPTEMBER

LEGEND

TEMPERATURES

ISOTHERMS FOR EACH 5° FAHRENHEIT

ISOTHERMS FOR INTERMEDIATE TEMPERATURES

ISOTHERMS FOR INTERPOLATED TEMPERATURES

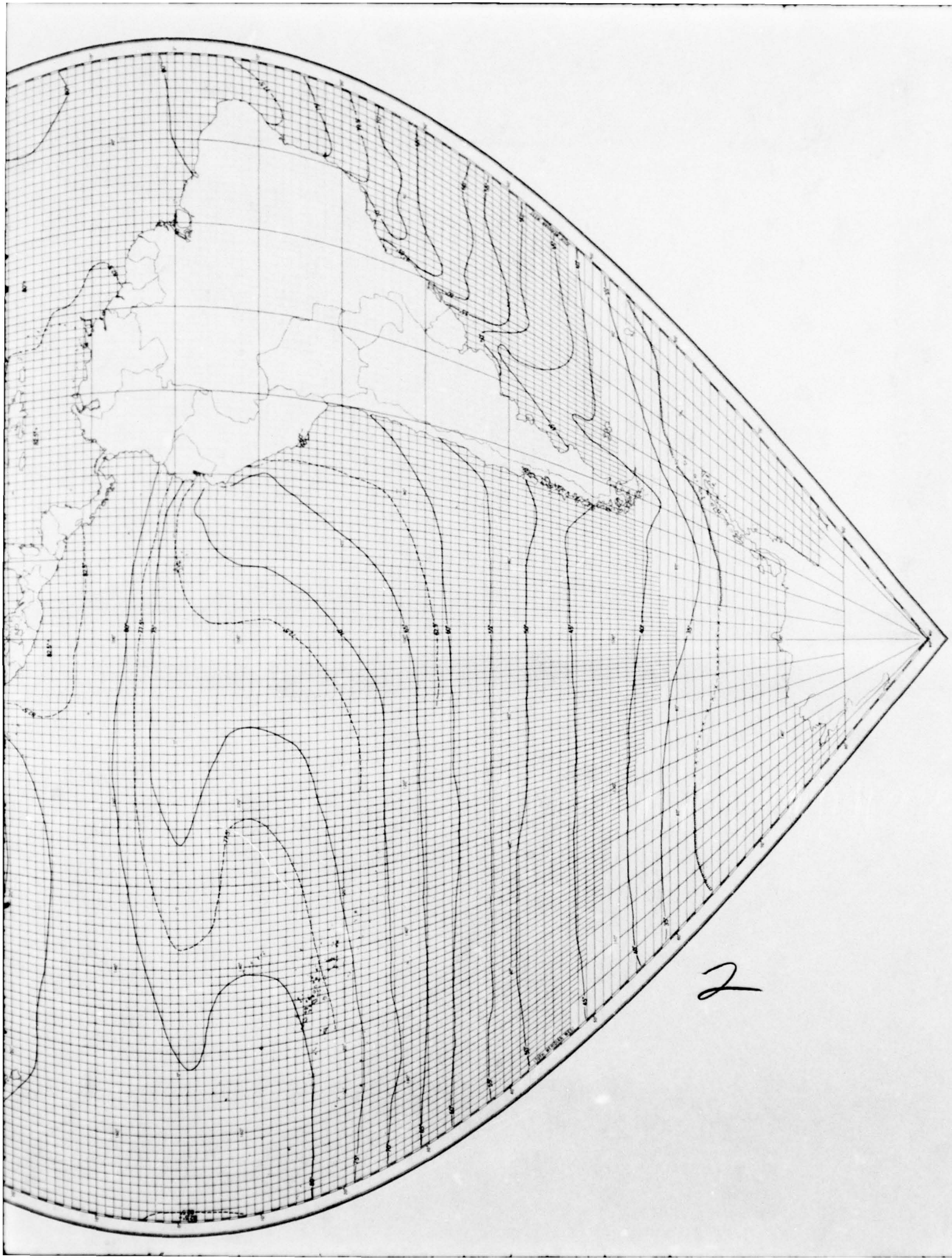
ICE LIMITS

MEAN ICE LIMIT

EXTREME ICE LIMIT

INTERPOLATED MEAN ICE LIMIT

Compiled by the Scripps Institution of Oceanography for the U.S. Army Air Forces from records in the U.S. Naval Oceanographic Office and from other sources.



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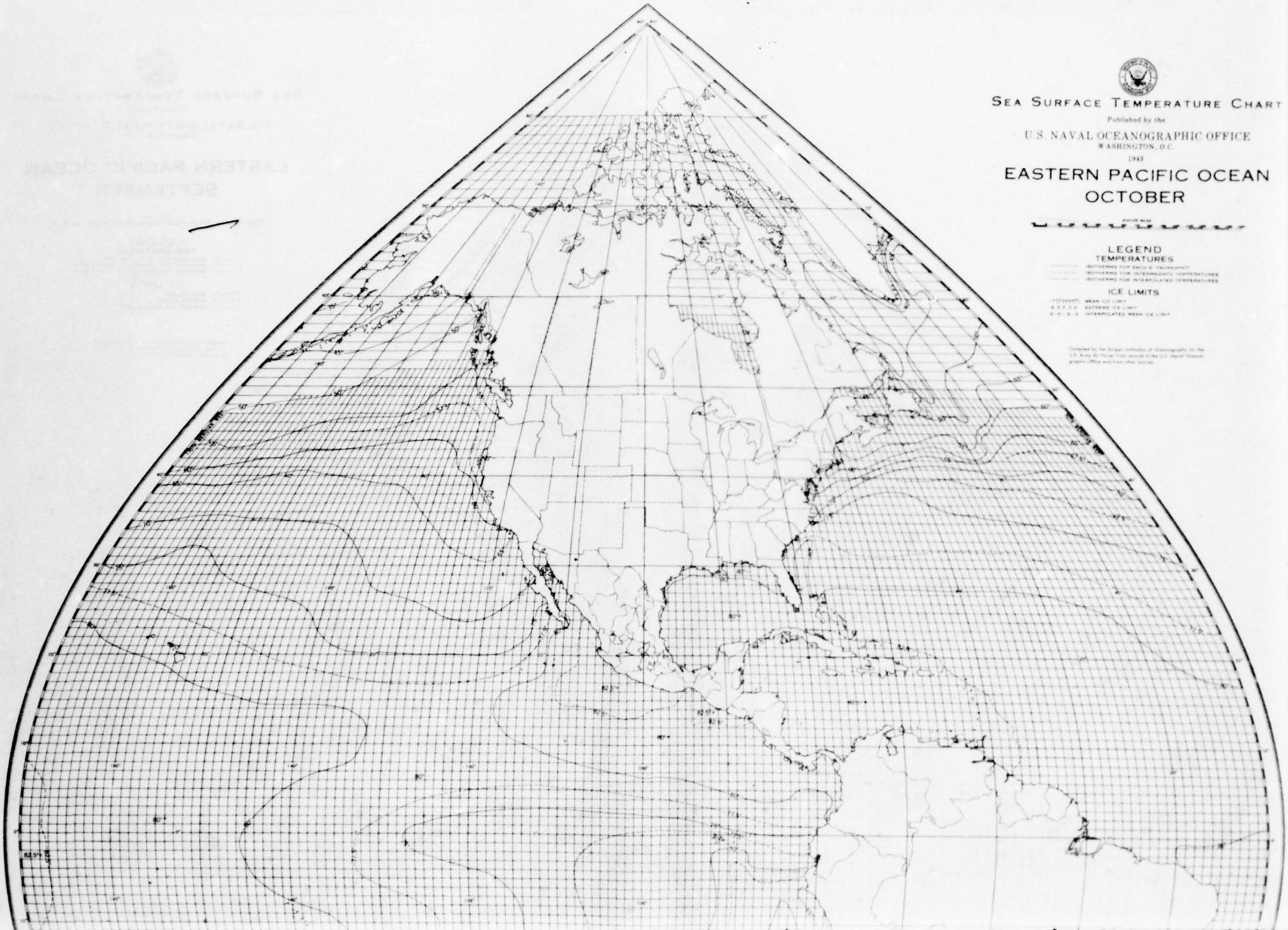
SEA SURFACE TEMPERATURE CHART
Published by the
U.S. NAVAL OCEANOGRAPHIC OFFICE
WASHINGTON, D.C.
1943
EASTERN PACIFIC OCEAN
OCTOBER
LEGEND
TEMPERATURES
ISOTHERMS FOR EACH 5° FAHRENHEIT
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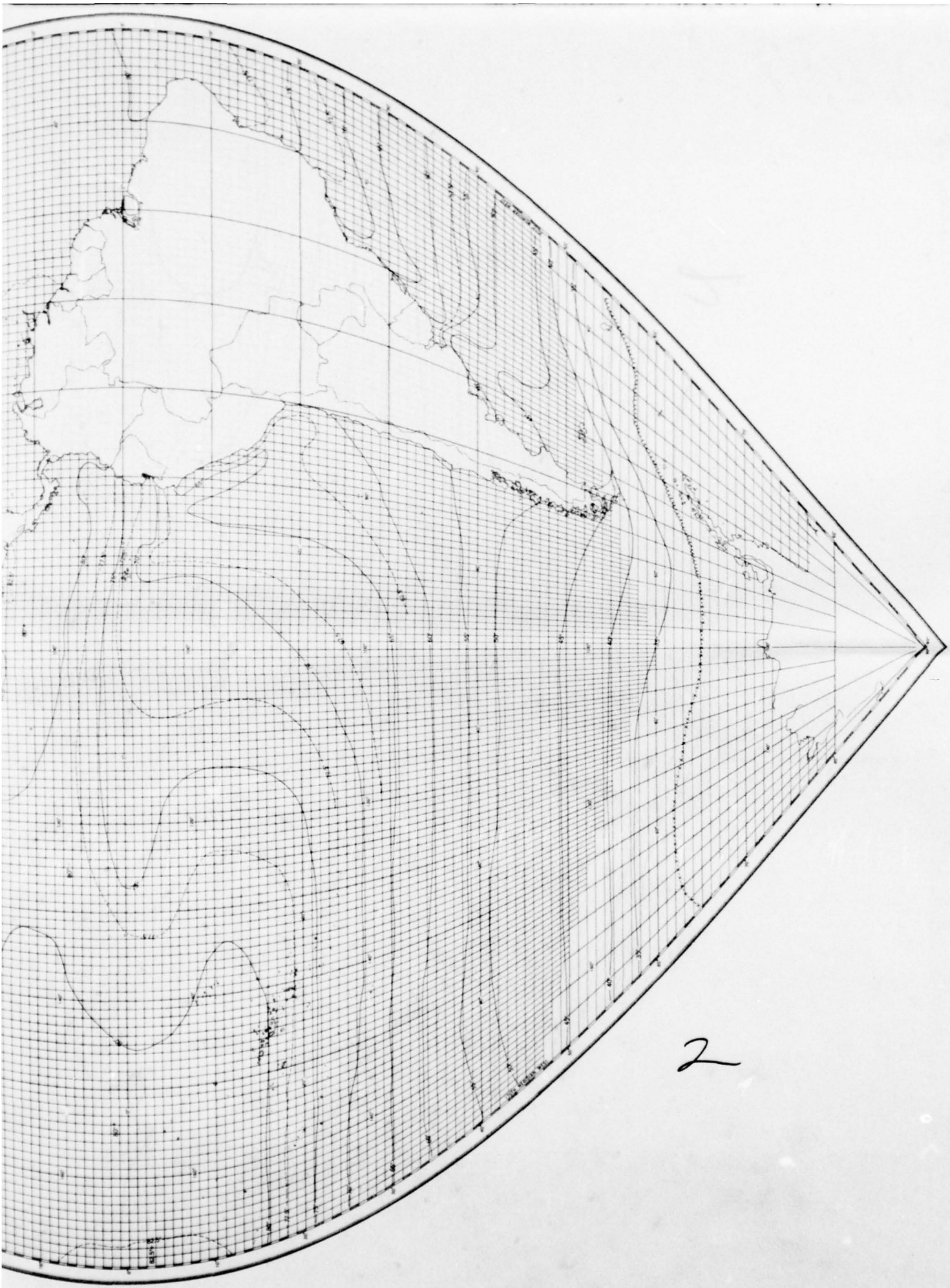
ISOTHERMS FOR INTERPOLATED TEMPERATURES
ICE LIMITS
MEAN ICE LIMIT
EXTREME ICE LIMIT
INTERPOLATED MEAN ICE LIMIT



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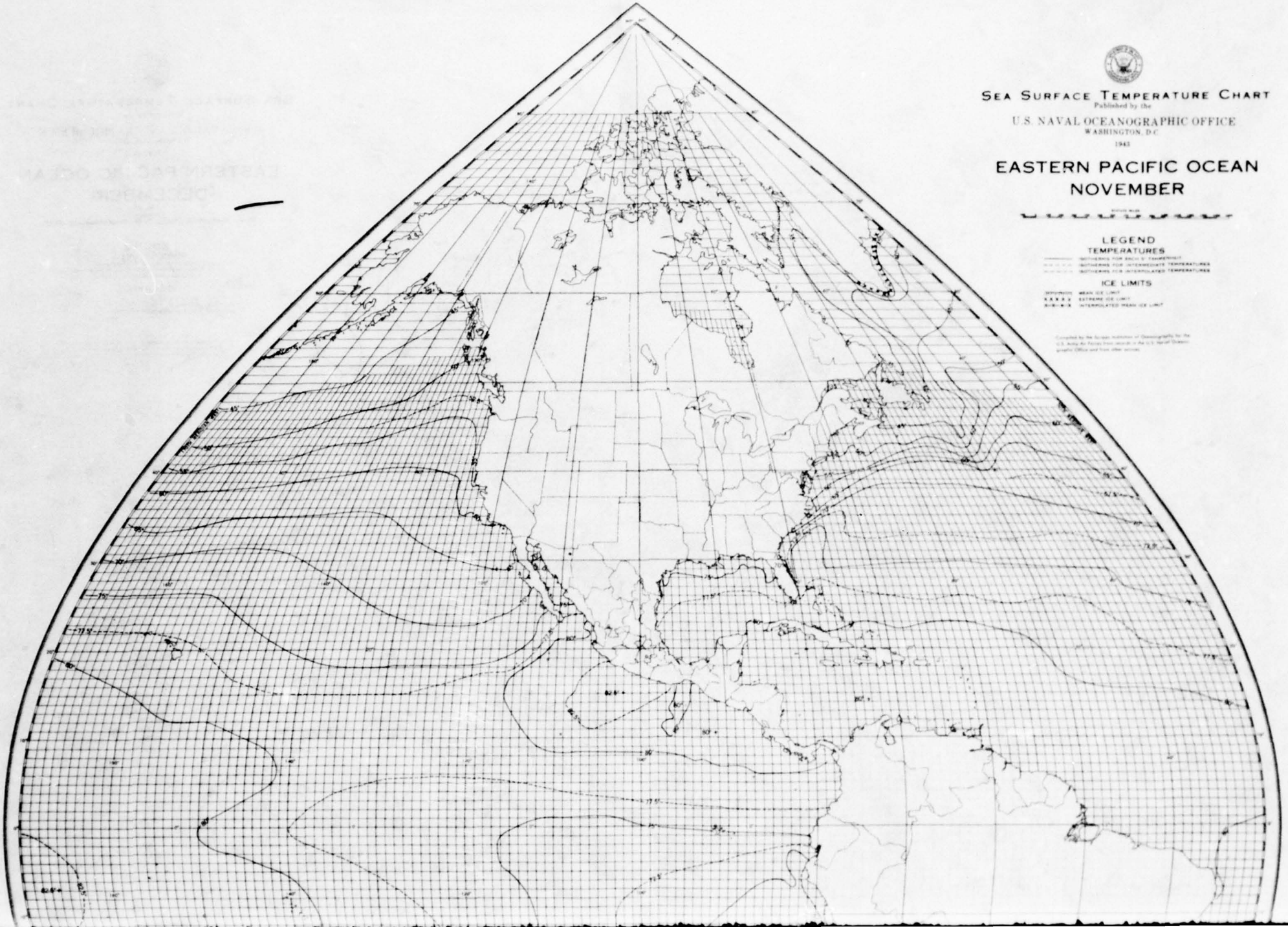

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WASHINGTON, D.C.

1943

EASTERN PACIFIC OCEAN NOVEMBER

LEGEND

TEMPERATURES

ISOTHERMS FOR EACH 5° FAHRENHEIT

ISOTHERMS FOR INTERMEDIATE TEMPERATURES

ISOTHERMS FOR INTERPOLATED TEMPERATURES

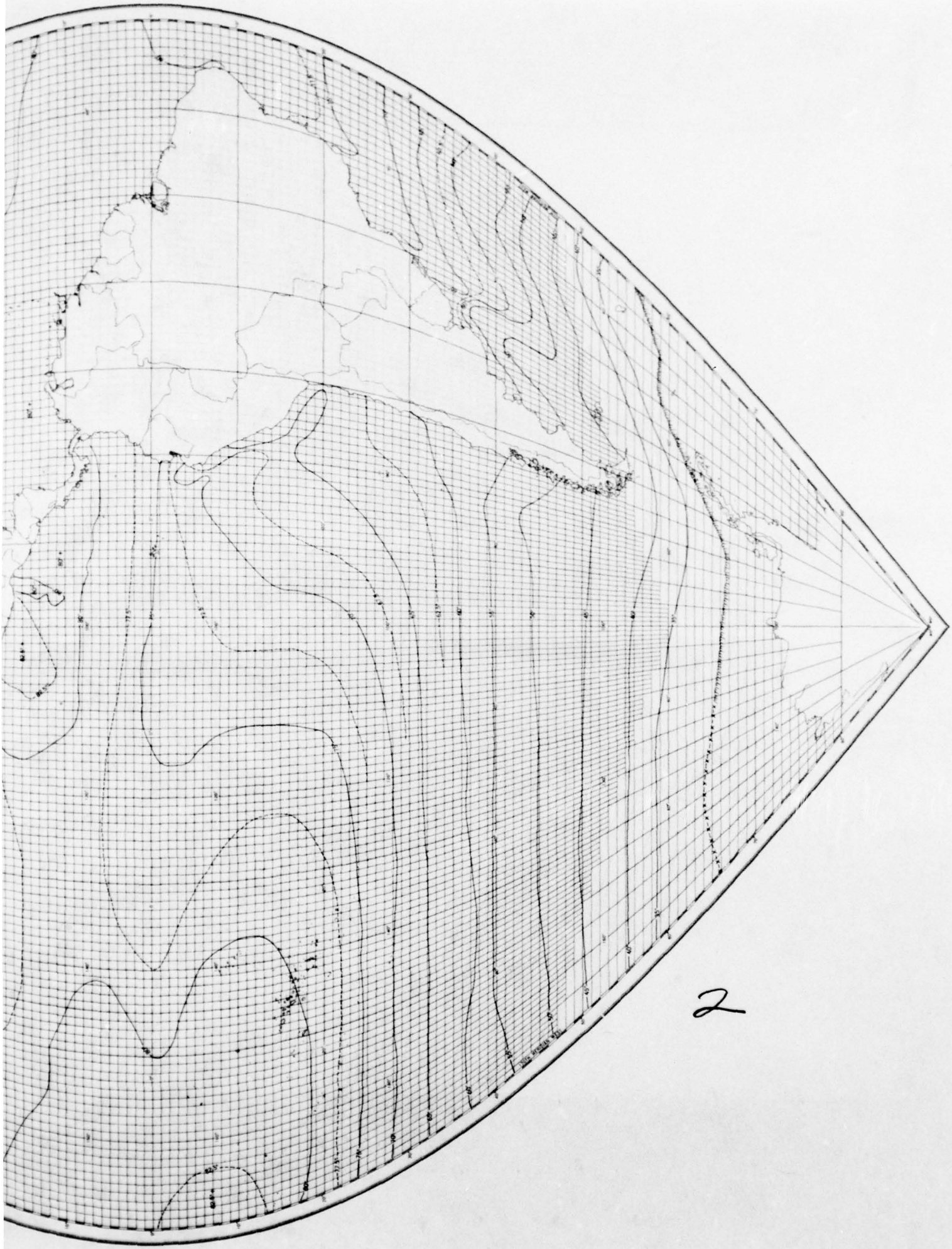
ICE LIMITS

MEAN ICE LIMIT

EXTREME ICE LIMIT

INTERPOLATED MEAN ICE LIMIT

Compiled by the Scripps Institution of Oceanography for the U.S. Army Air Forces from records in the U.S. Naval Oceanographic Office and from other sources.



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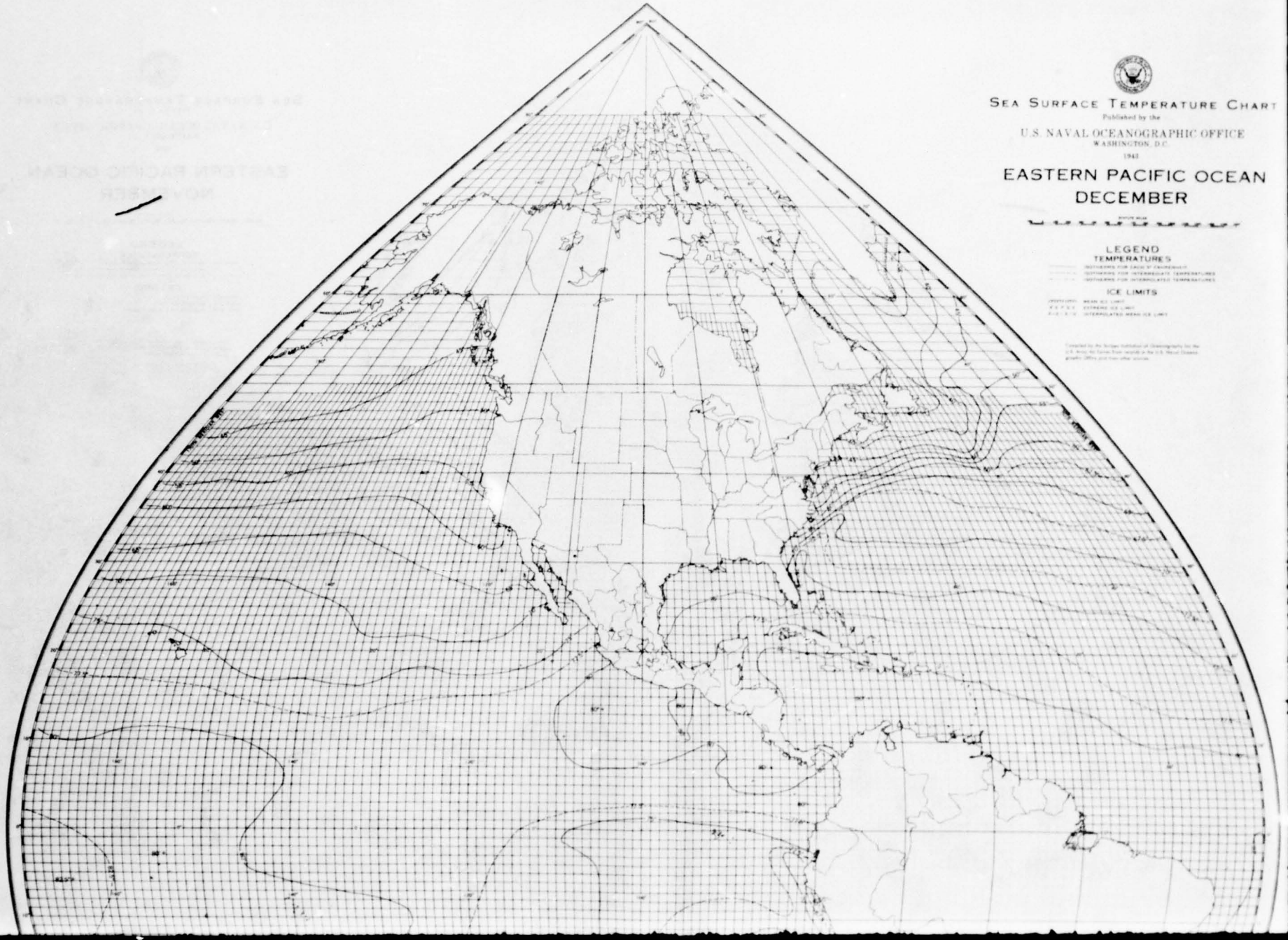

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WASHINGTON, D.C.

1941

EASTERN PACIFIC OCEAN
DECEMBER

LEGEND

TEMPERATURES

ISOTHERMS FOR EACH 5° FAHRENHEIT

ISOTHERMS FOR INTERMEDIATE TEMPERATURES

ISOTHERMS FOR INTERPOLATED TEMPERATURES

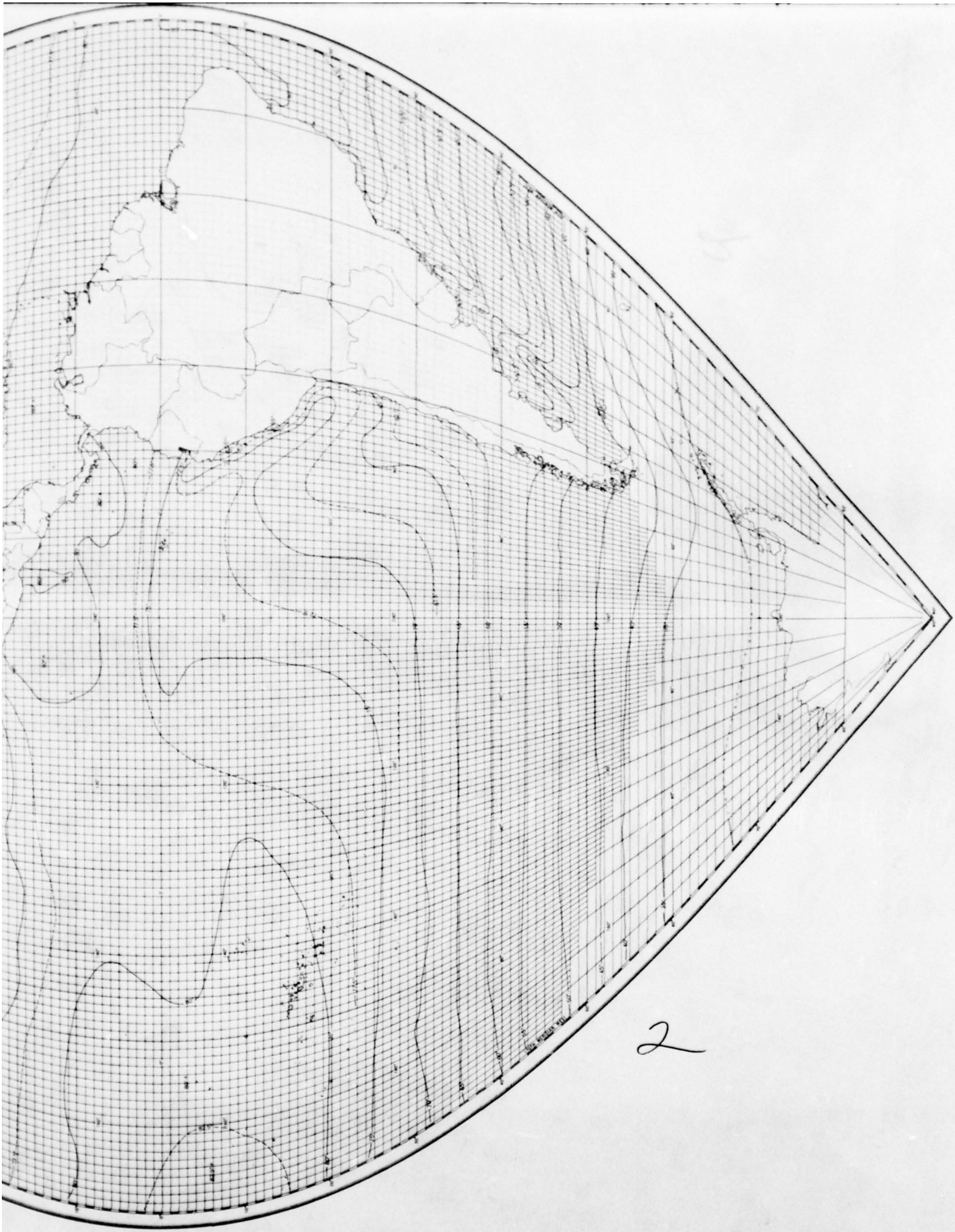
ICE LIMITS

MEAN ICE LIMIT

EXTREME ICE LIMIT

INTERPOLATED MEAN ICE LIMIT

Compiled by the Scripps Institution of Oceanography for the U.S. Naval Hydrographic Office, from records in the U.S. Naval Observatory, Office and from other sources.



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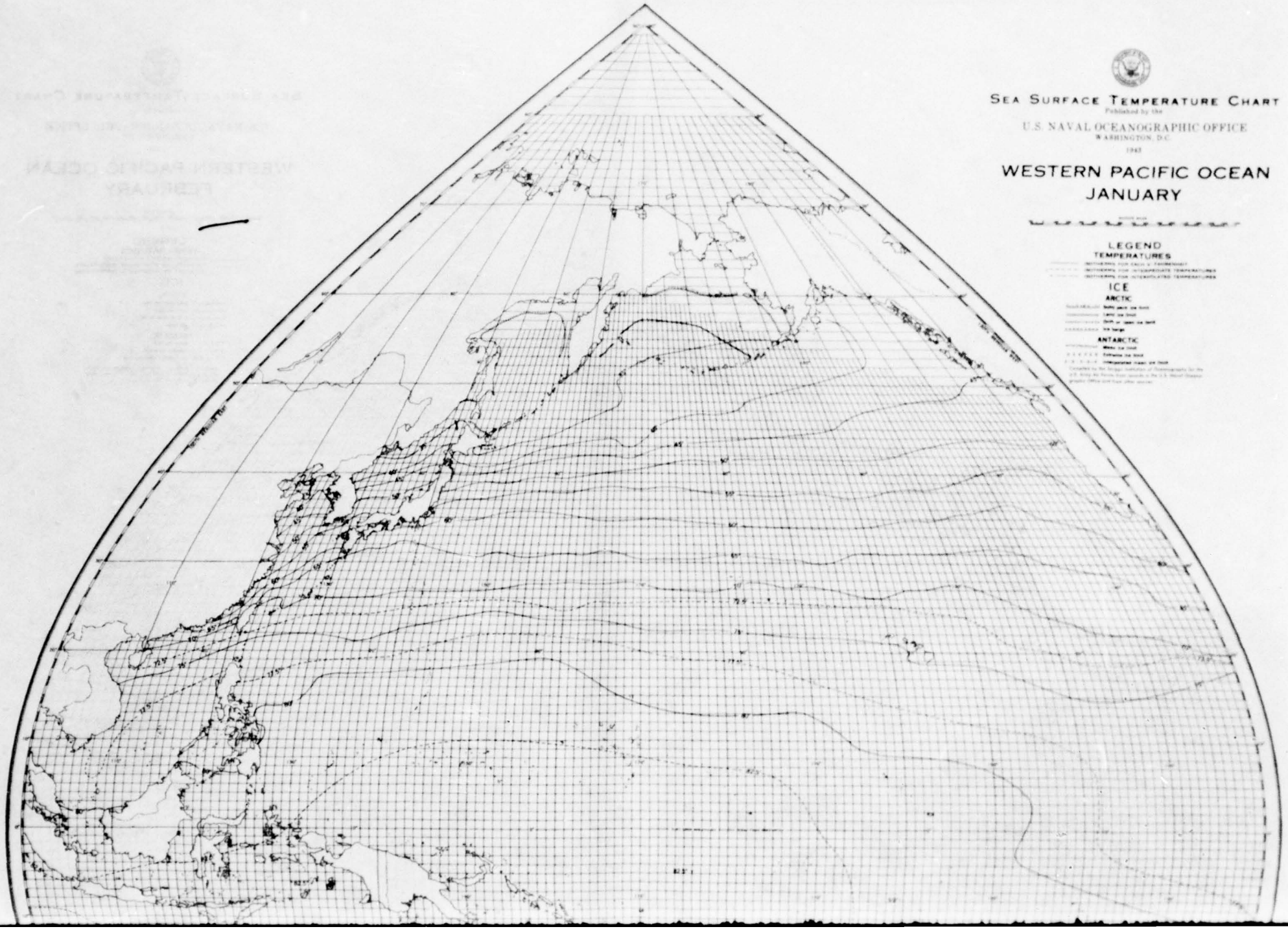
SEA SURFACE TEMPERATURE CHART
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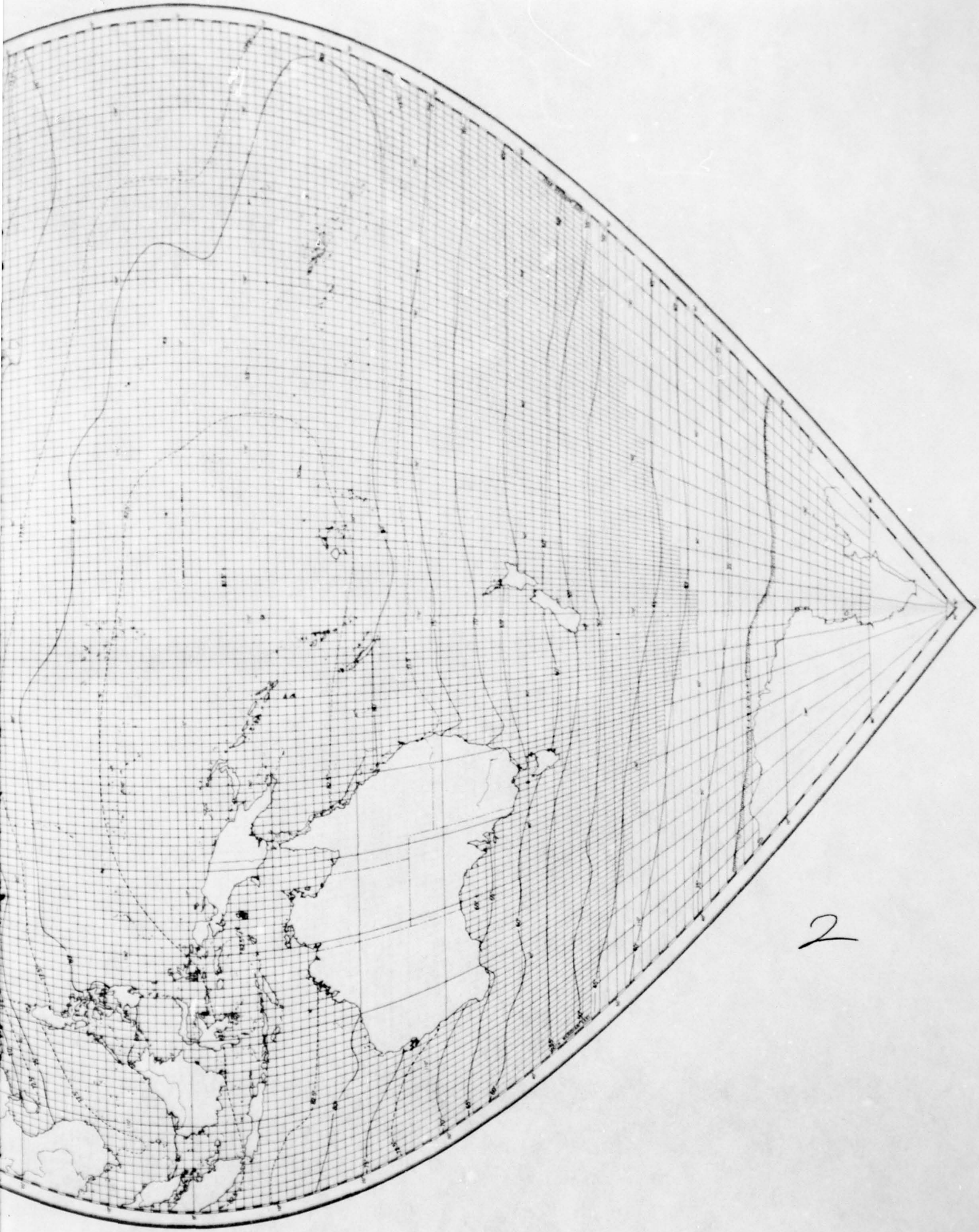
U.S. NAVAL OCEANOGRAPHIC OFFICE
WASHINGTON, D.C.
1943
WESTERN PACIFIC OCEAN
JANUARY
LEGEND
TEMPERATURES
ICE
ARCTIC
ANTARCTIC



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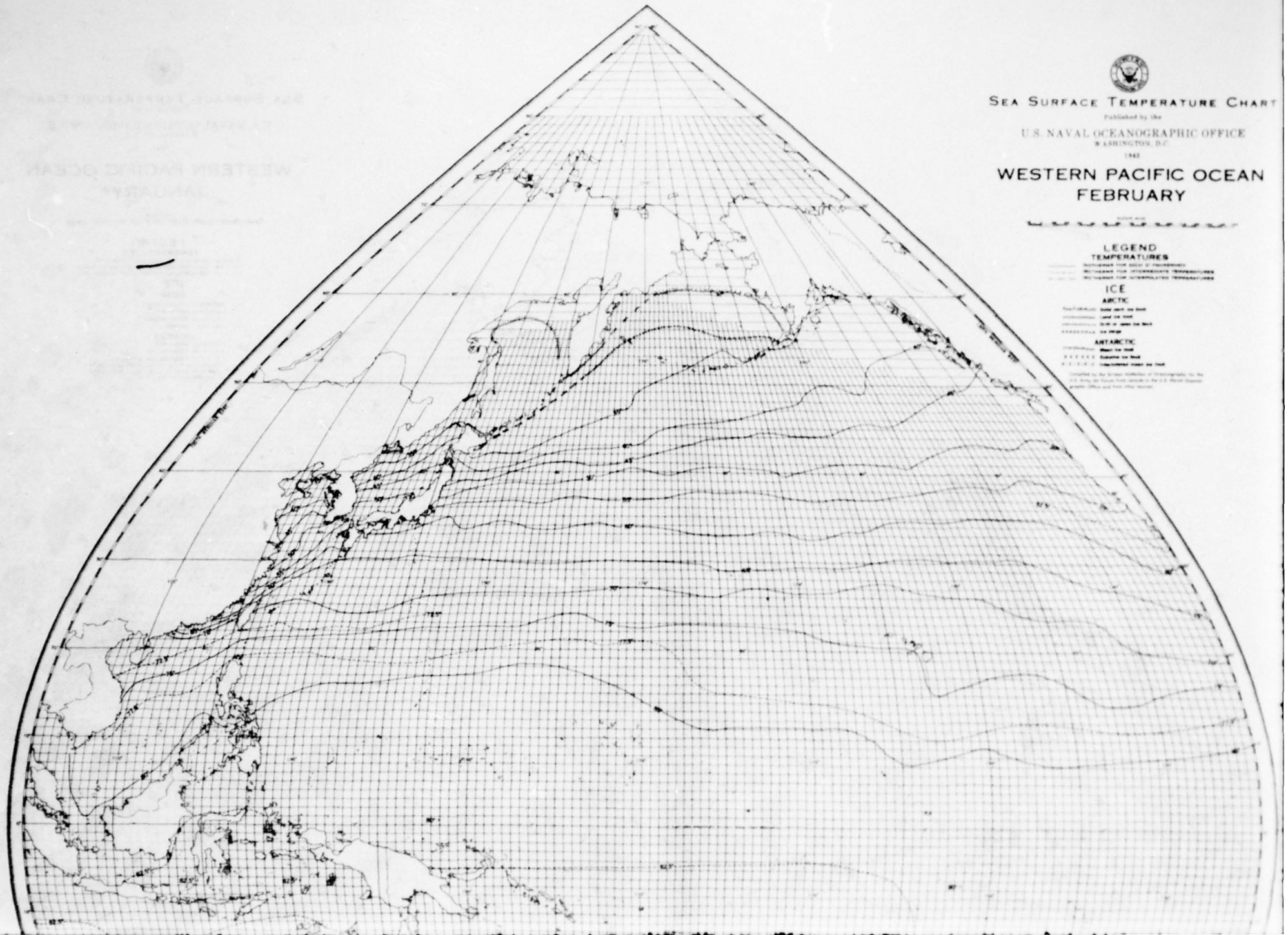
SEA SURFACE TEMPERATURE CHART
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U.S. NAVAL OCEANOGRAPHIC OFFICE
WASHINGTON, D.C.
1943
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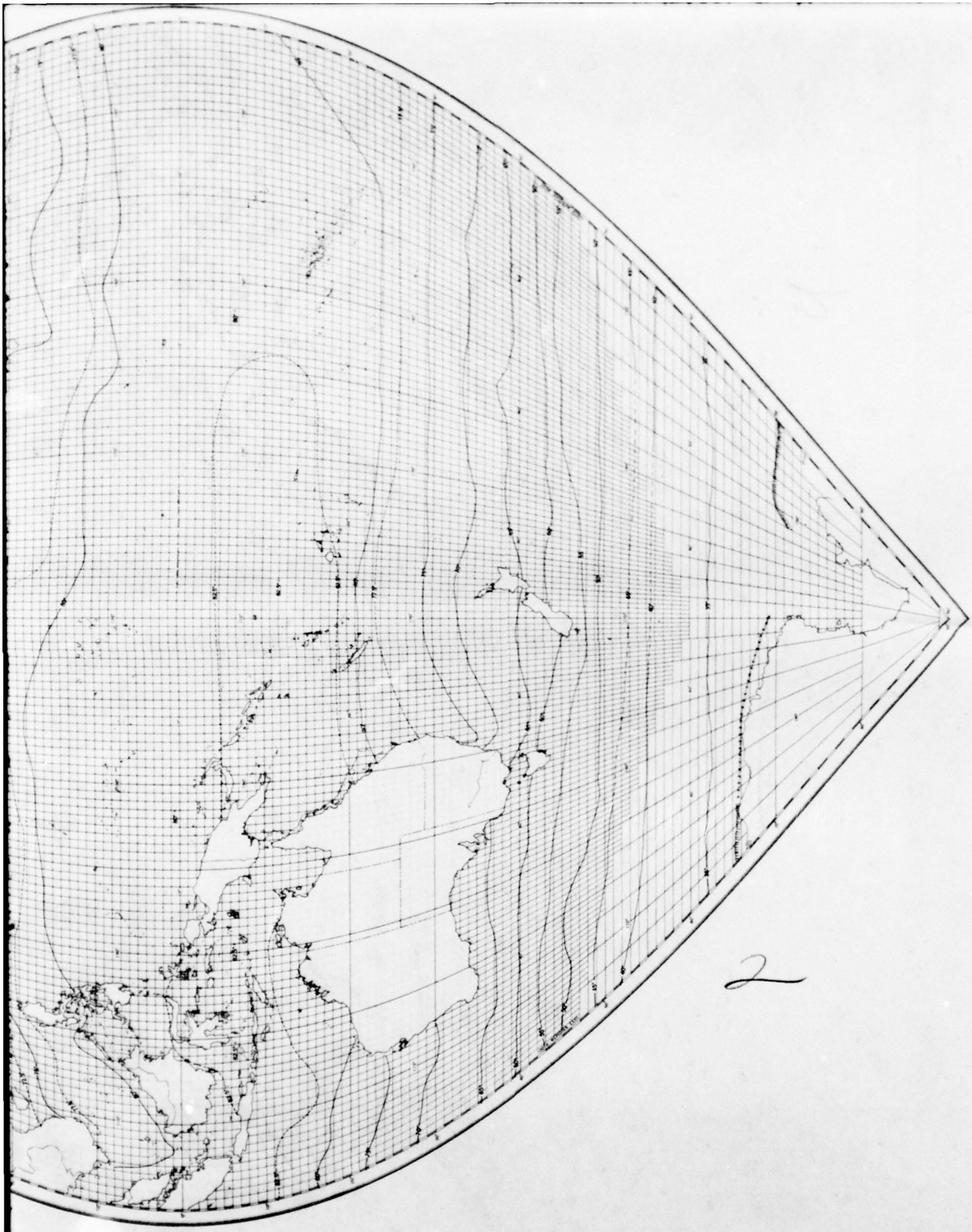
FEBRUARY
LEGEND
TEMPERATURES
ICE
ARCTIC
ANTARCTIC



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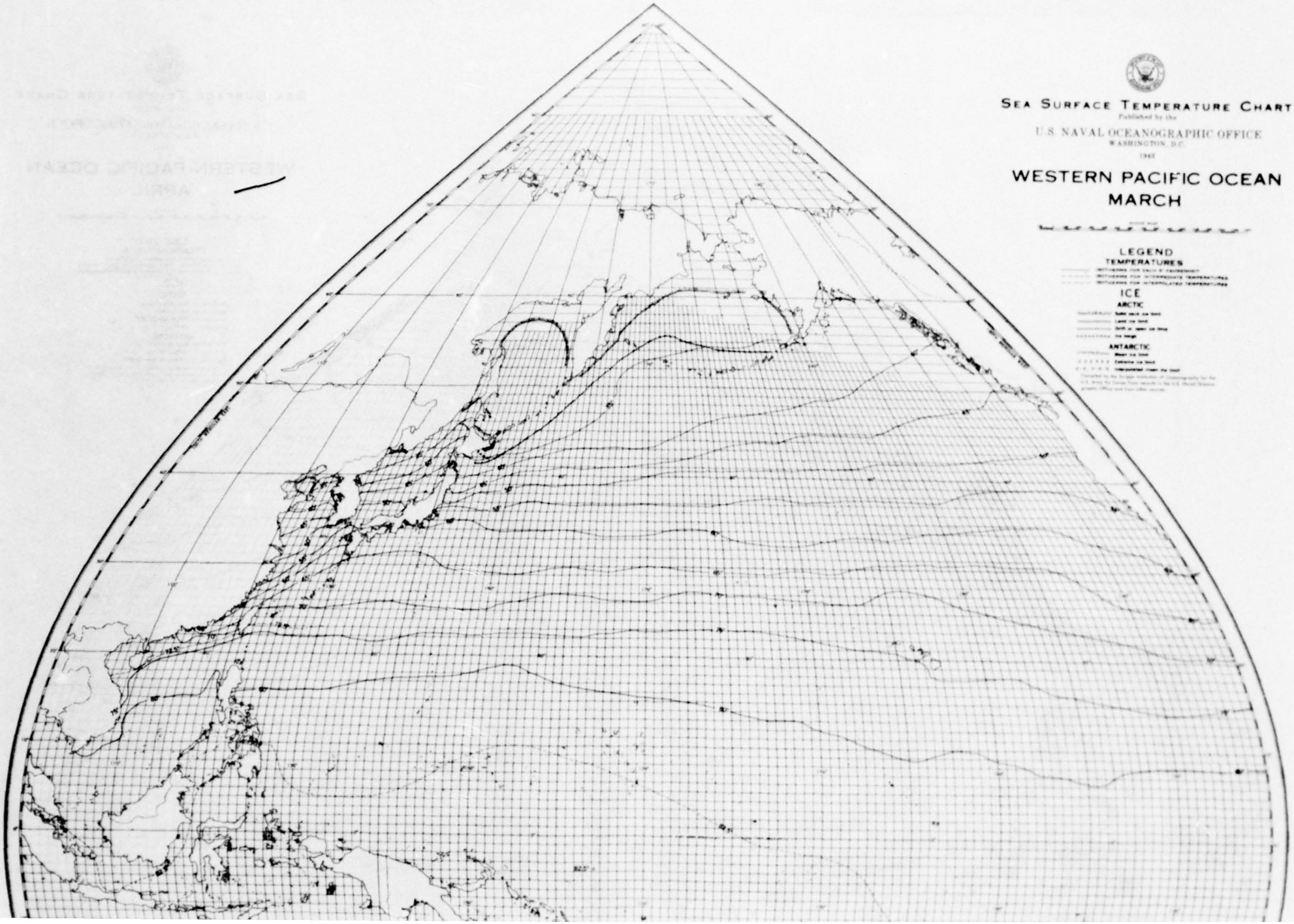
SEA SURFACE TEMPERATURE CHART
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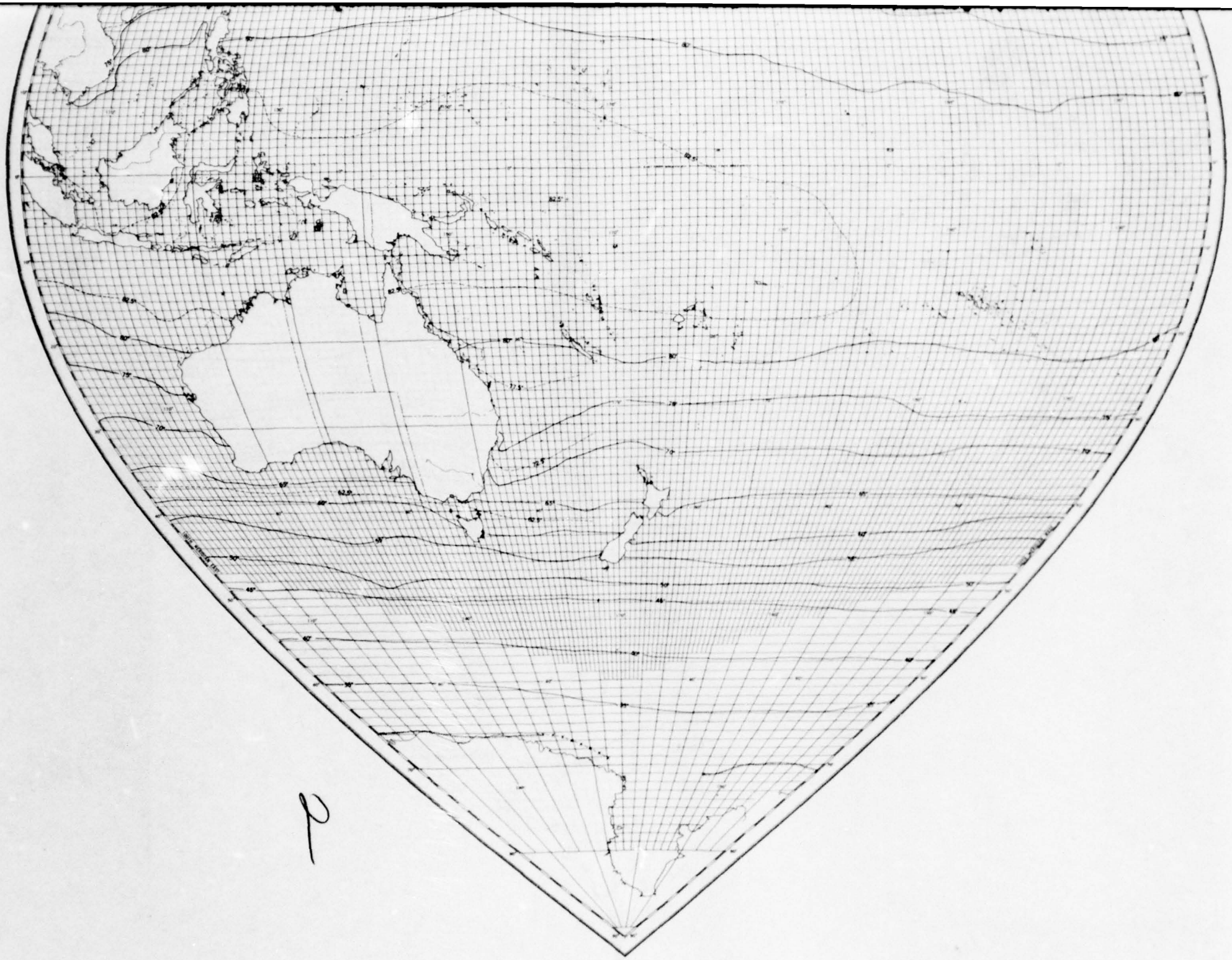
WASHINGTON, D.C.
WESTERN PACIFIC OCEAN
MARCH
LEGEND
TEMPERATURES
ICE
ARCTIC
ANTARCTIC



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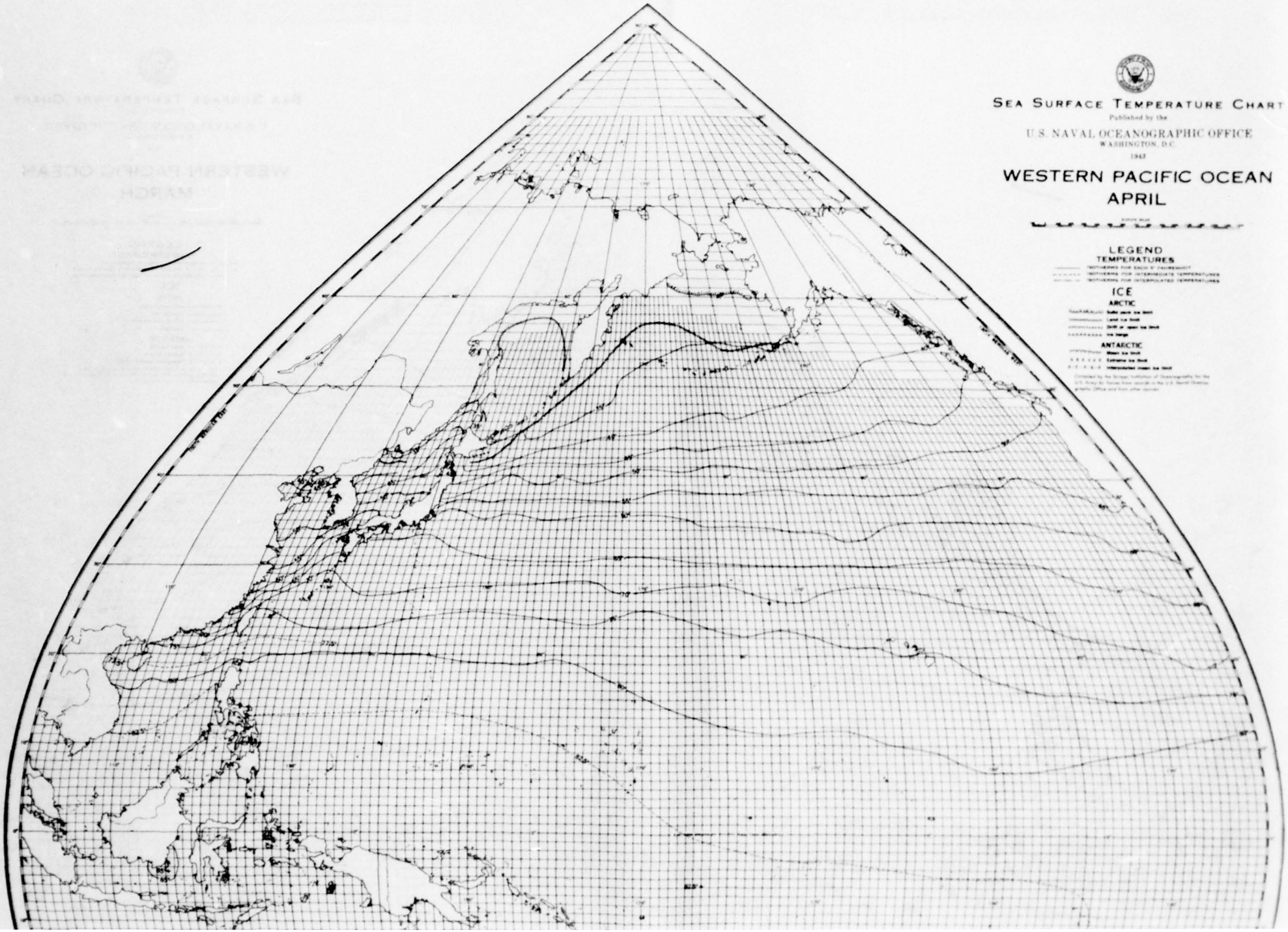

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WASHINGTON, D.C.

1943

WESTERN PACIFIC OCEAN
APRIL

LEGEND

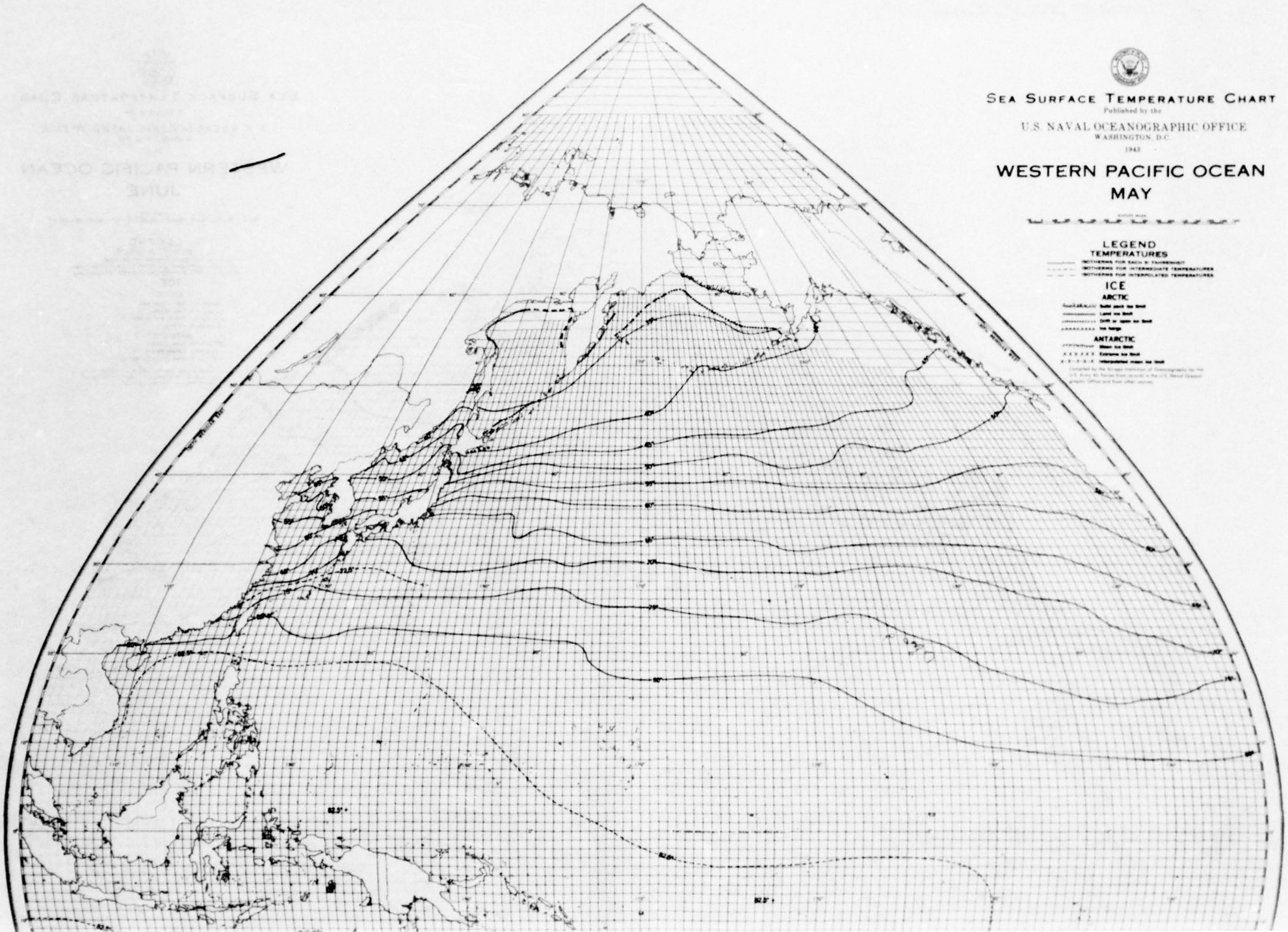
TEMPERATURES

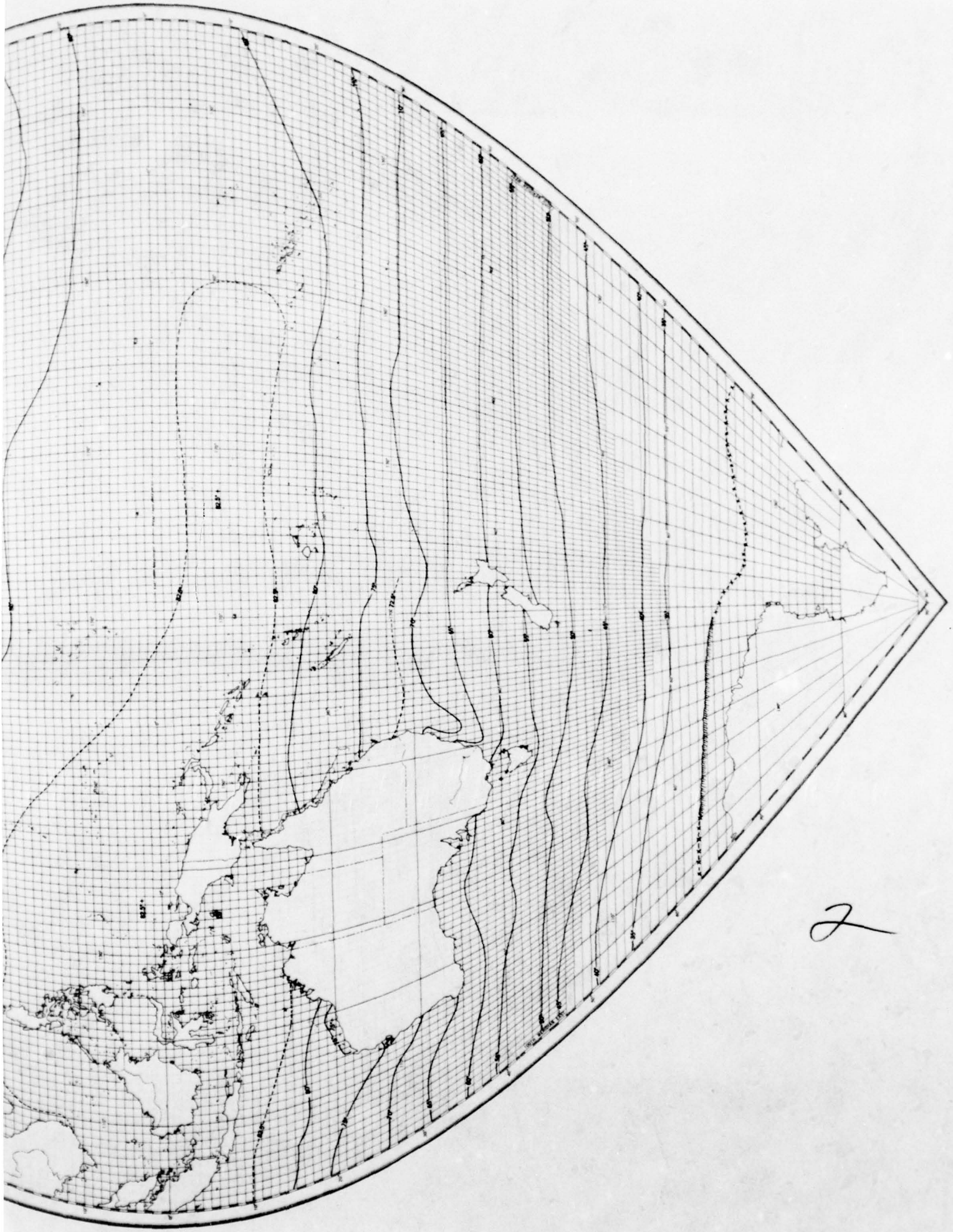
ICE

ARCTIC

ANTARCTIC

2


SEA SURFACE TEMPERATURE CHART
Published by the
U.S. NAVAL OCEANOGRAPHIC OFFICE
WASHINGTON, D.C.
1943
WESTERN PACIFIC OCEAN
MAY
LEGEND
TEMPERATURES
ISOTHERMS FOR EACH 5° FAHRENHEIT
ISOTHERMS FOR INTERMEDIATE TEMPERATURES
ISOTHERMS FOR INTERPOLATED TEMPERATURES
ICE
ARCTIC
Solid pack ice limit
Light ice limit
Drift or open ice limit
Ice bergs
ANTARCTIC
Minor ice limit
Extreme ice limit
Interpolated mean ice limit



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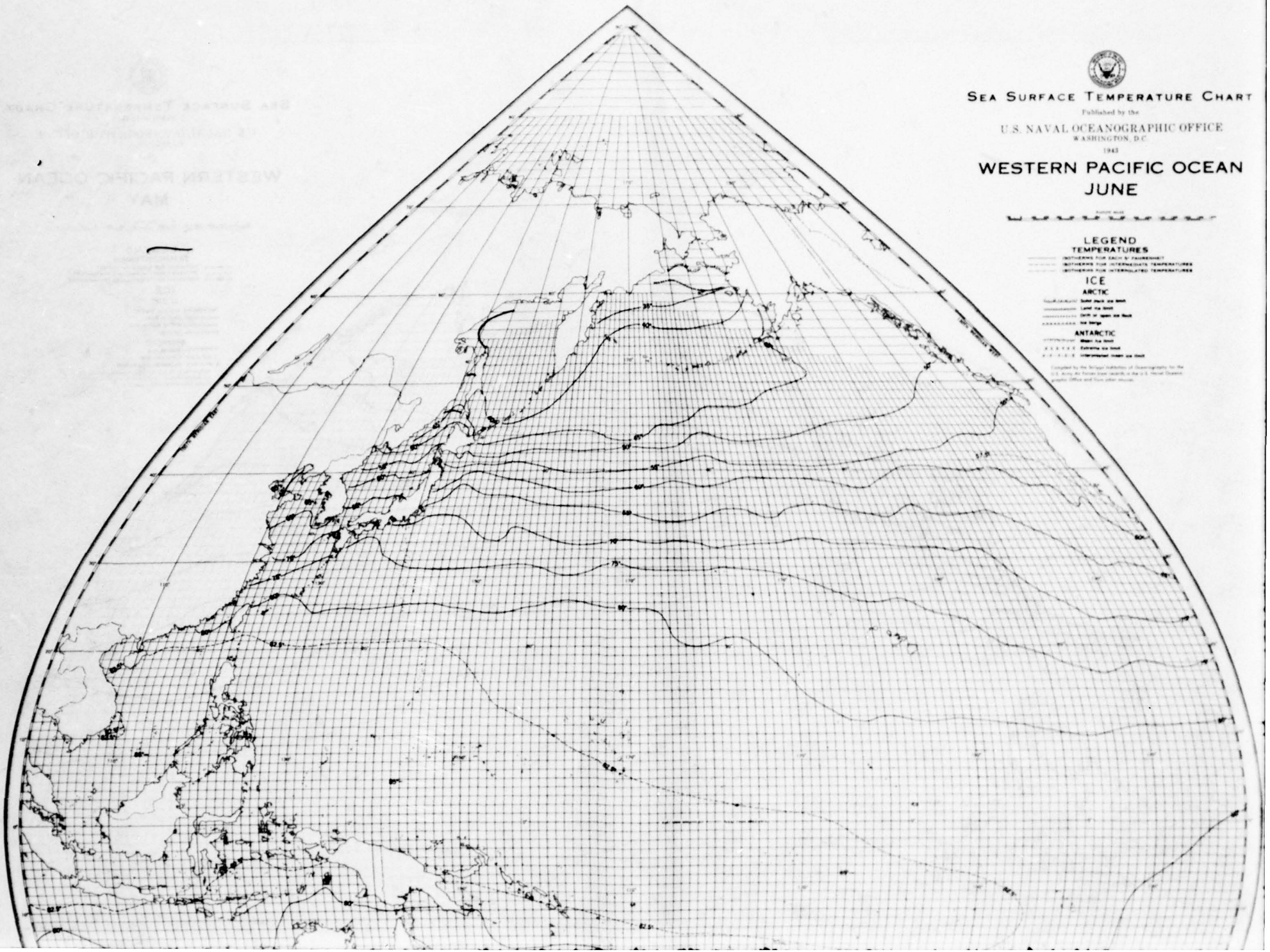
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WASHINGTON, D.C.
1943
WESTERN PACIFIC OCEAN
JUNE
LEGEND
TEMPERATURES
ISOTHERMS FOR EACH 5° FAHRENHEIT
ISOTHERMS FOR INTERMEDIATE TEMPERATURES
ISOTHERMS FOR INTERMEDIATE TEMPERATURES
ICE
ARCTIC
Solid pack ice limit
Land fast ice limit
Drift or open ice limit
Ice bergs
ANTARCTIC
Mean ice limit
Extreme ice limit
Intermediate mean ice limit

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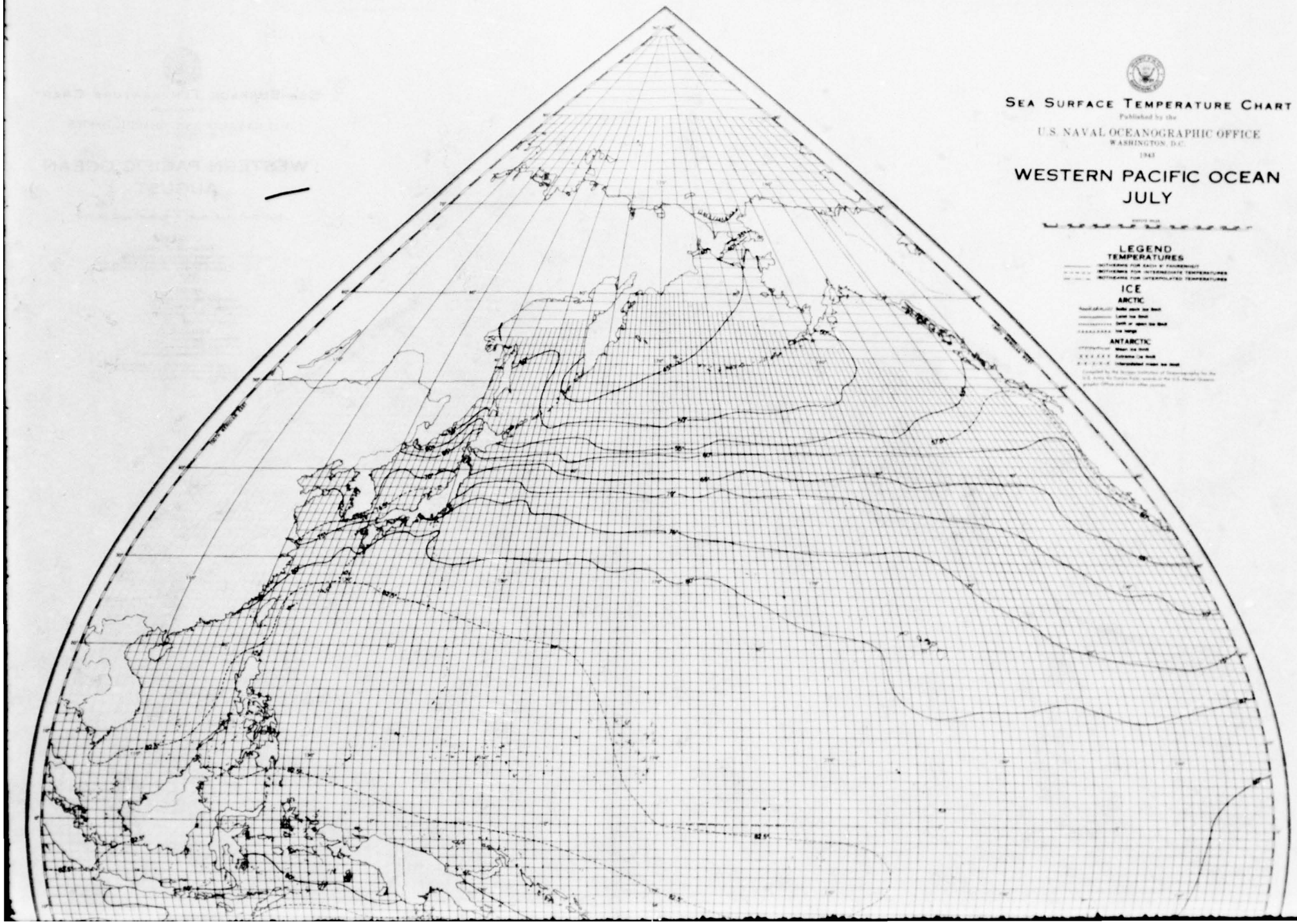
SEA SURFACE TEMPERATURE CHART
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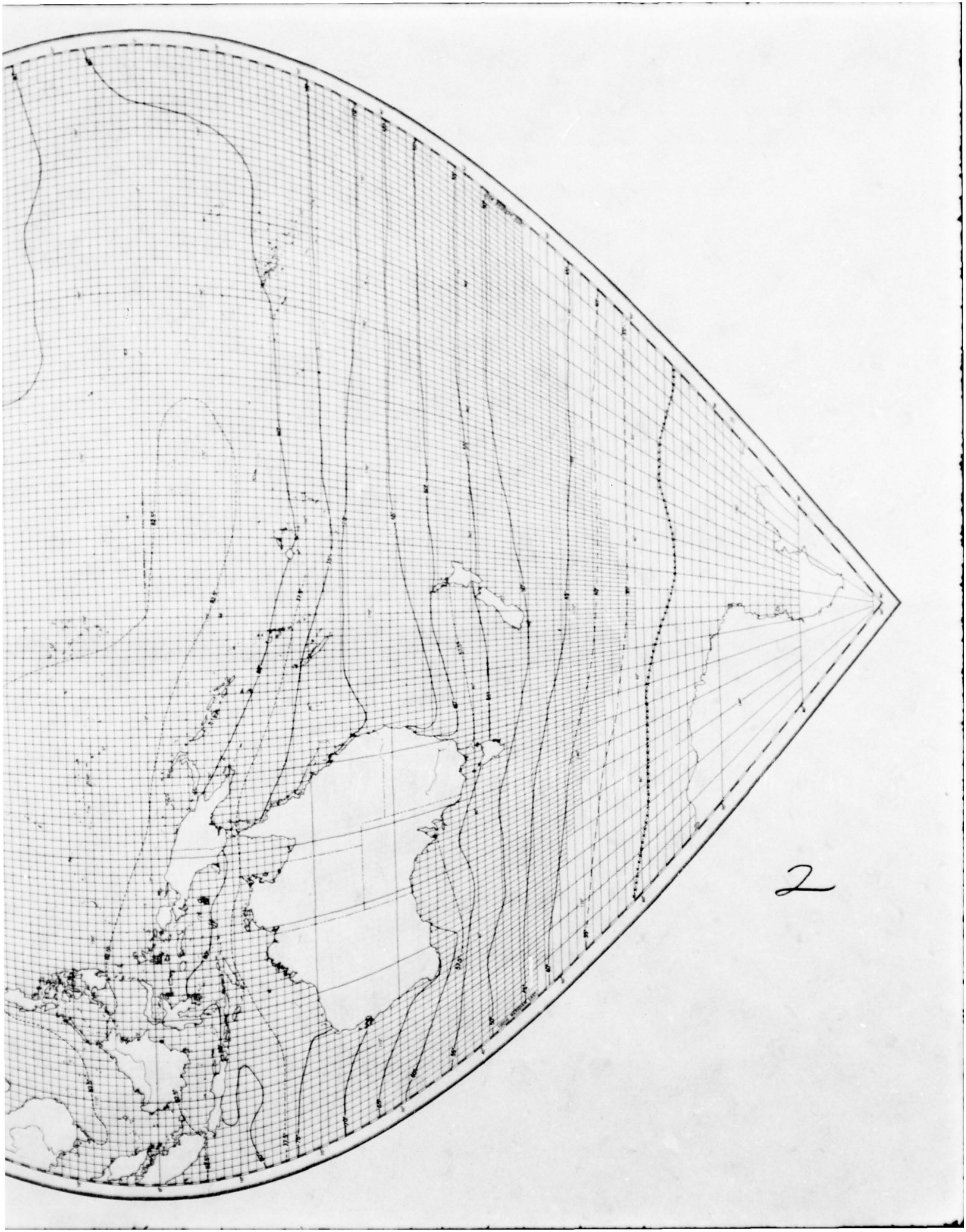
JULY
LEGEND
TEMPERATURES
ICE
ARCTIC
ANTARCTIC



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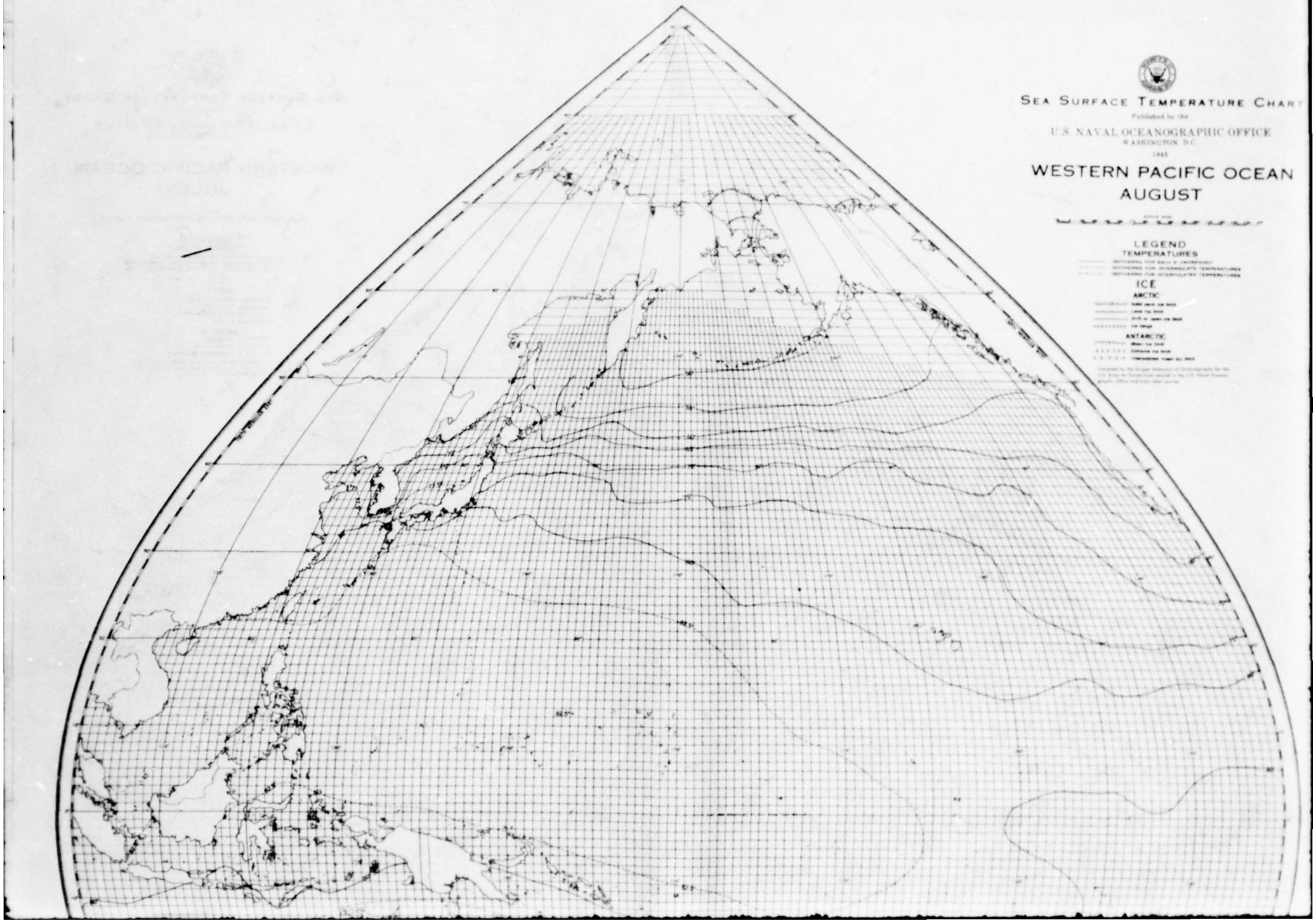
SEA SURFACE TEMPERATURE CHART
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U.S. NAVAL OCEANOGRAPHIC OFFICE
WASHINGTON, D.C.
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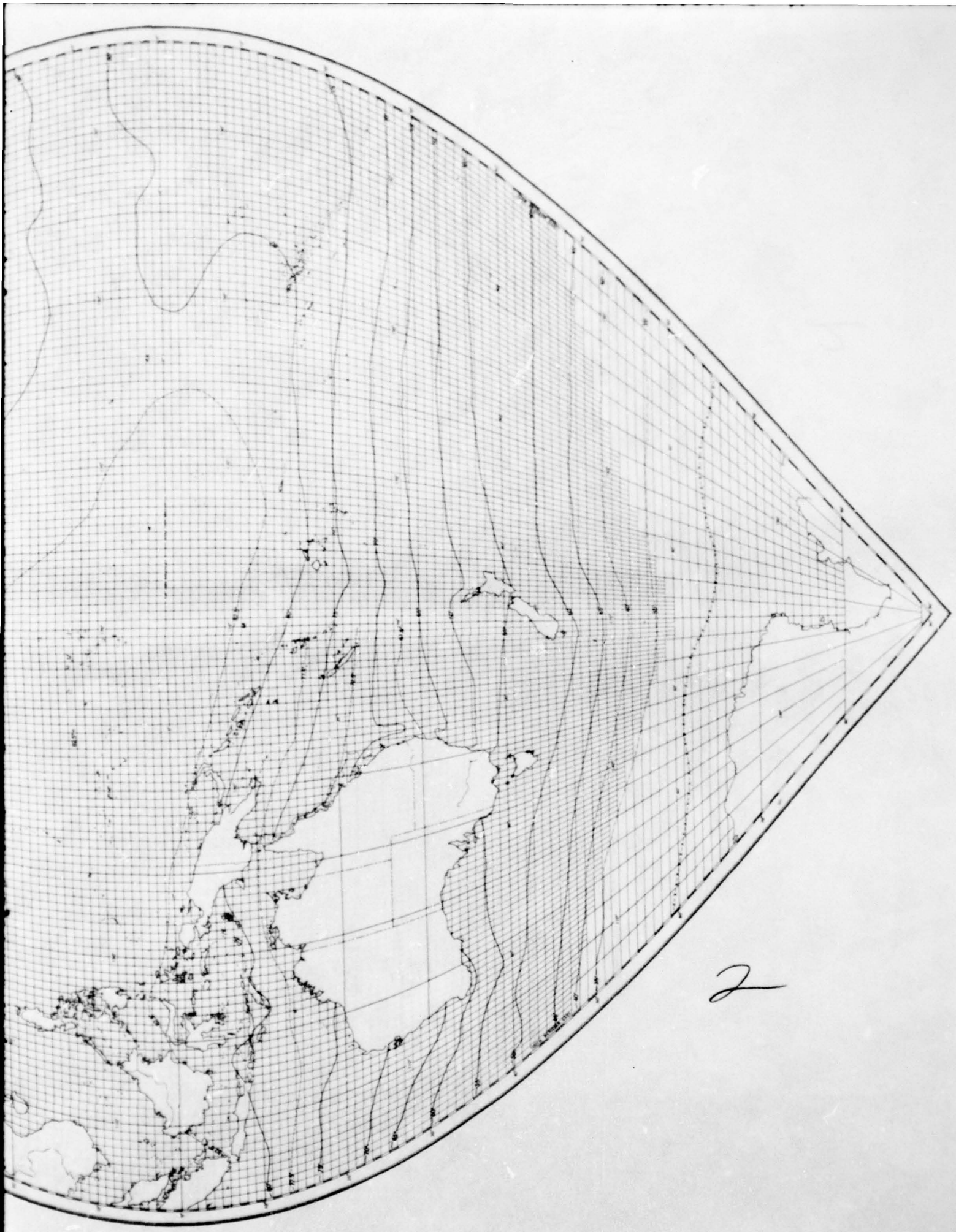
AUGUST
LEGEND
TEMPERATURES
ICE
ARCTIC
ANTARCTIC



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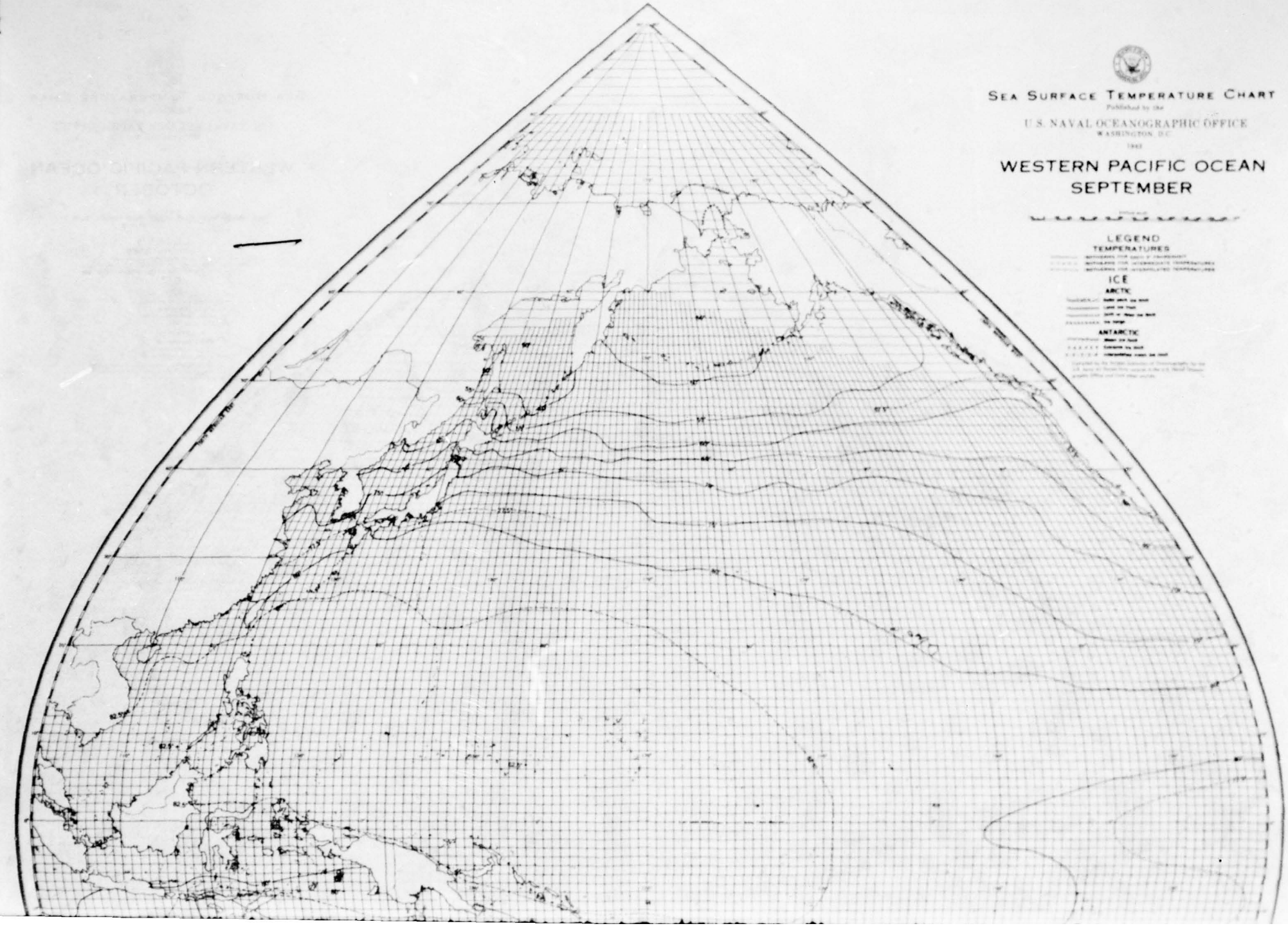
SEA SURFACE TEMPERATURE CHART
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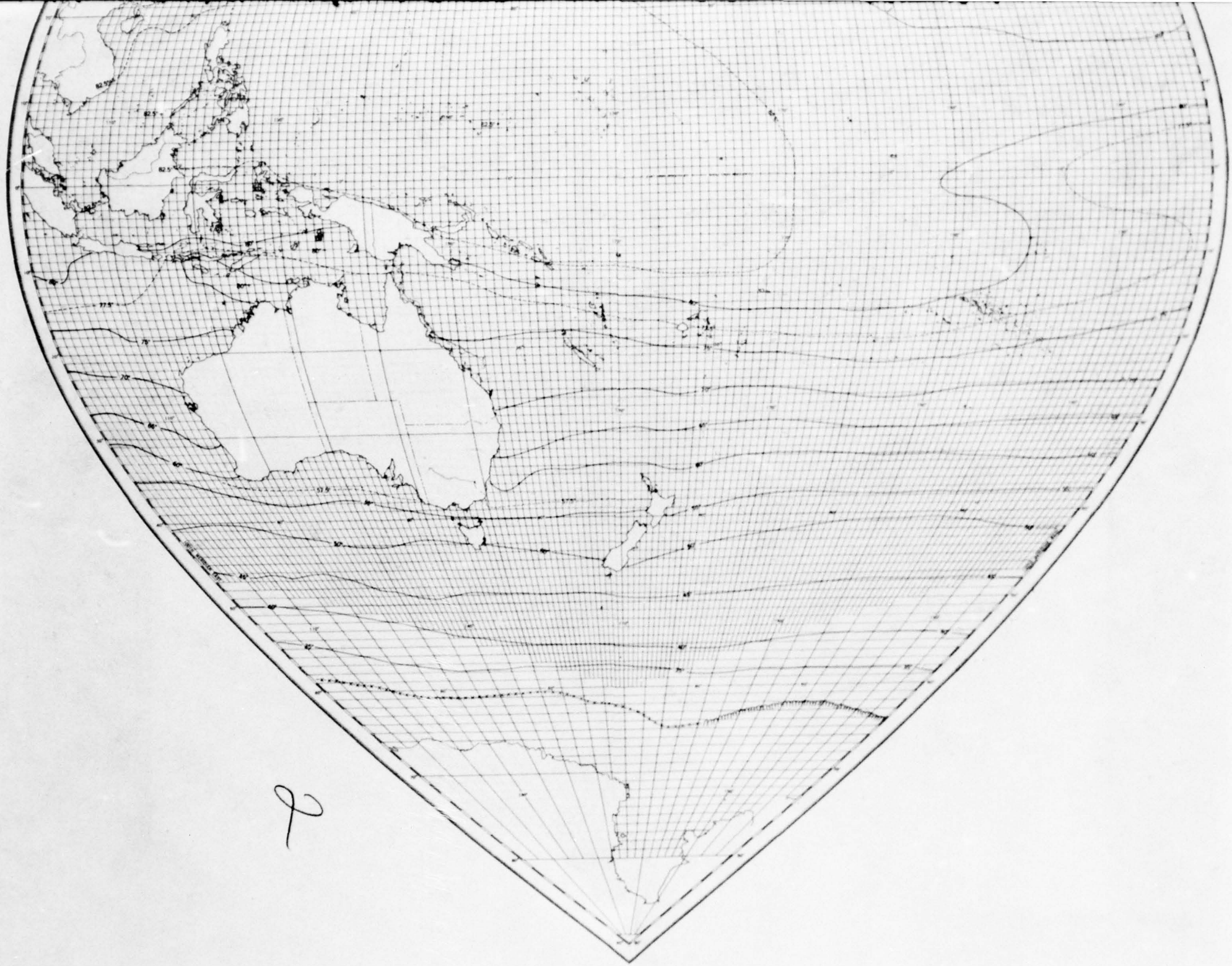
U.S. NAVAL OCEANOGRAPHIC OFFICE
WASHINGTON, D.C.
WESTERN PACIFIC OCEAN
SEPTEMBER
LEGEND
TEMPERATURES
ICE
ARCTIC
ANTARCTIC



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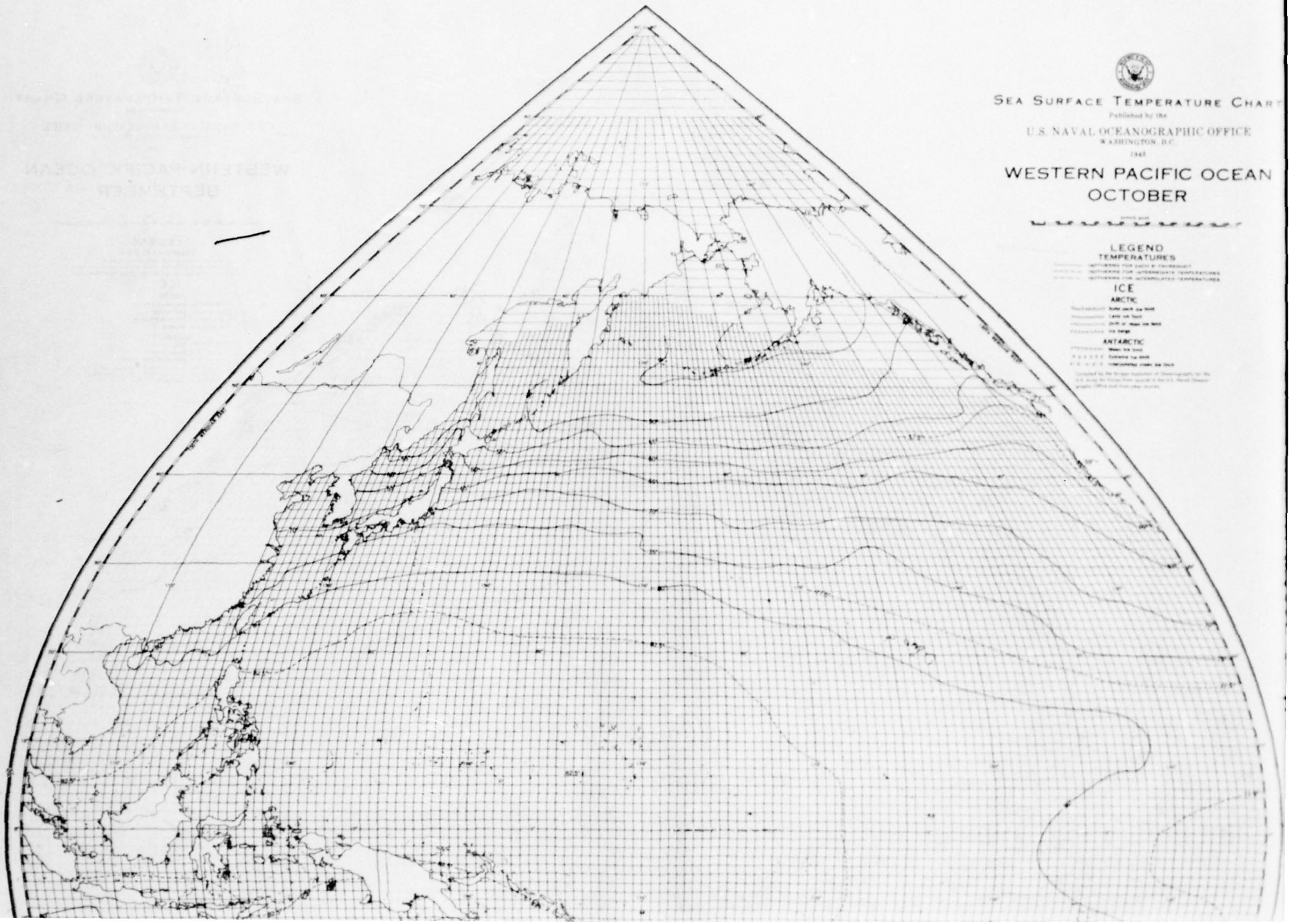
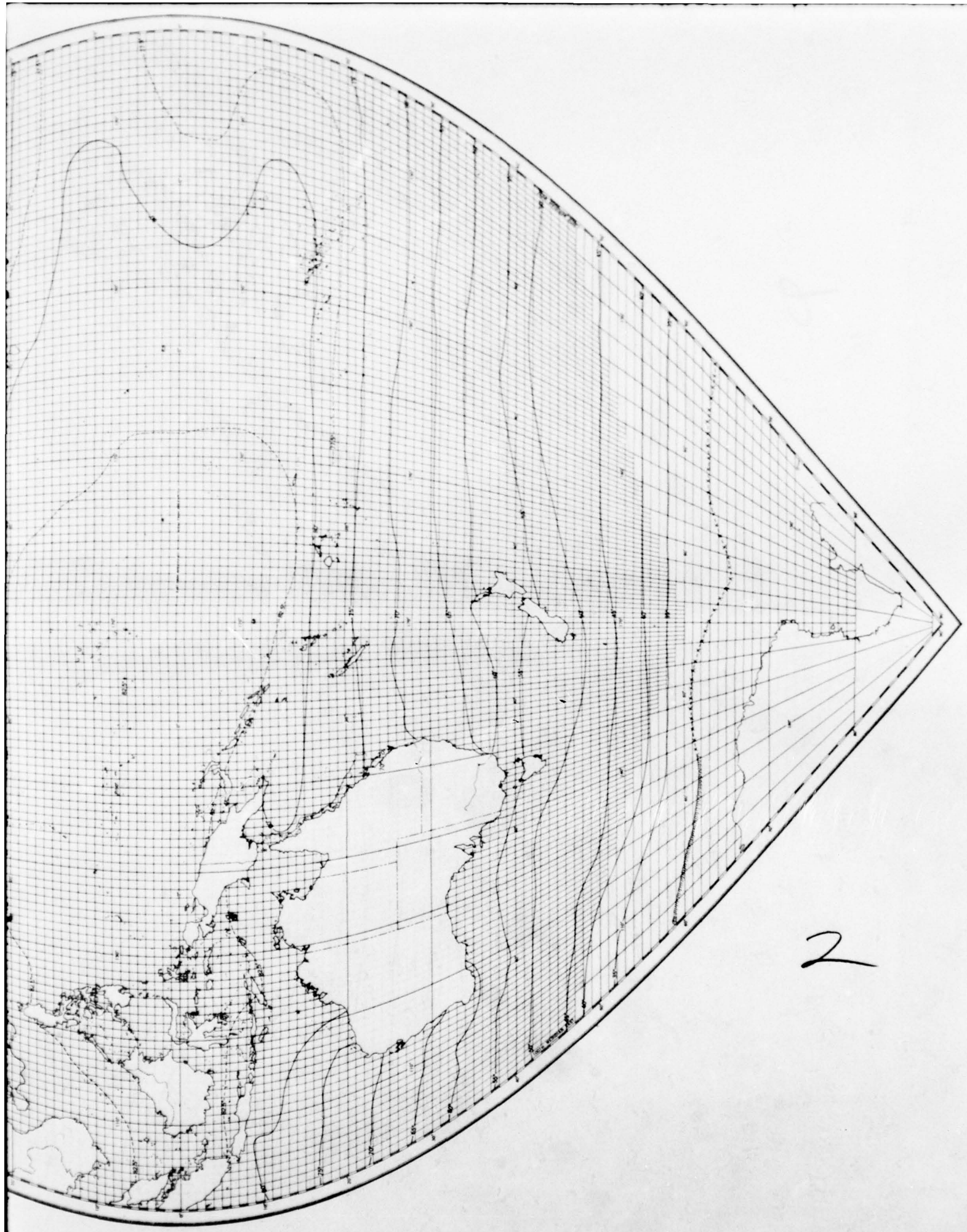

SEA SURFACE TEMPERATURE CHART
Published by the
U.S. NAVAL OCEANOGRAPHIC OFFICE
WASHINGTON, D.C.
1948
WESTERN PACIFIC OCEAN
OCTOBER
LEGEND
TEMPERATURES
ICE
ARCTIC
ANTARCTIC



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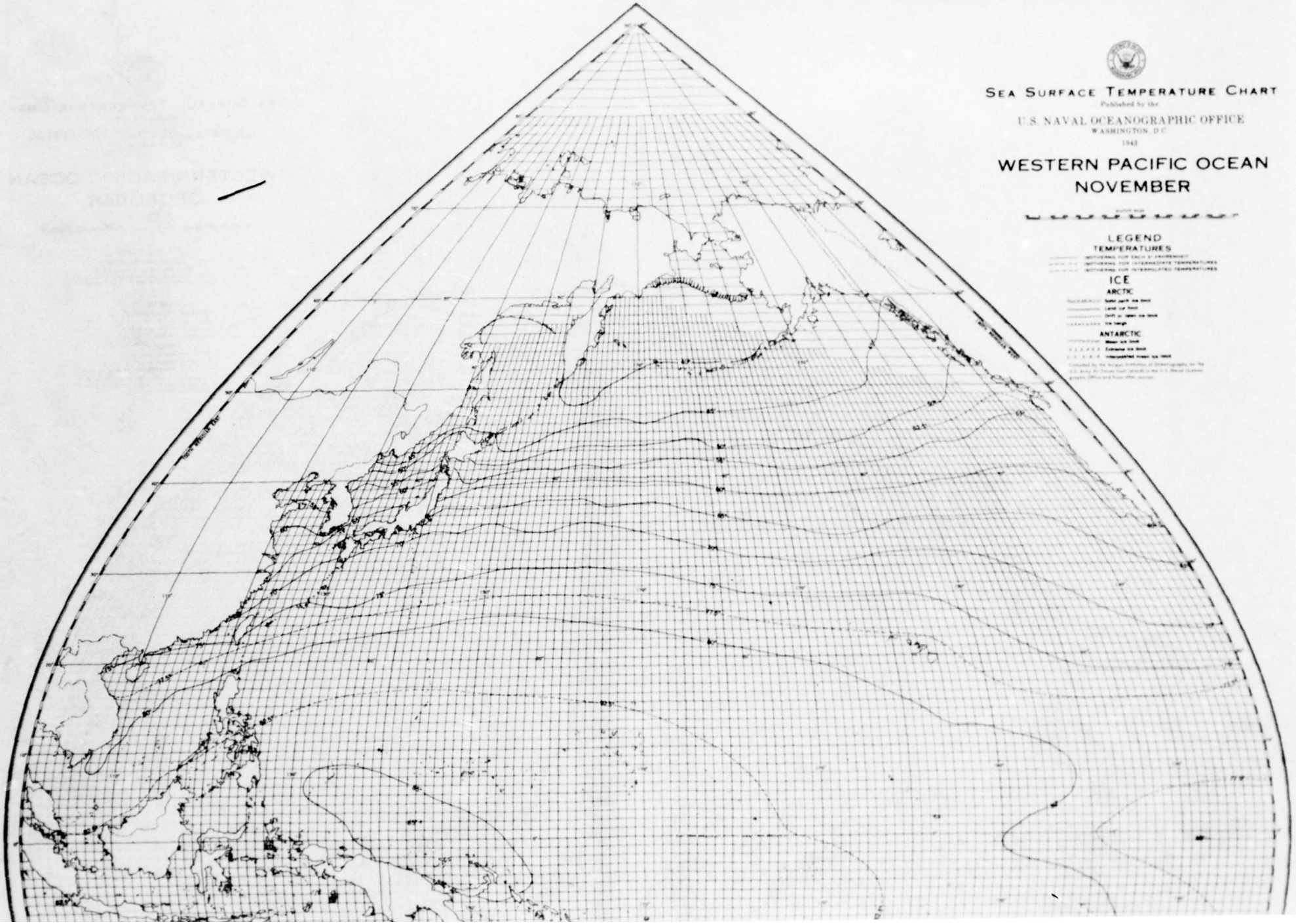
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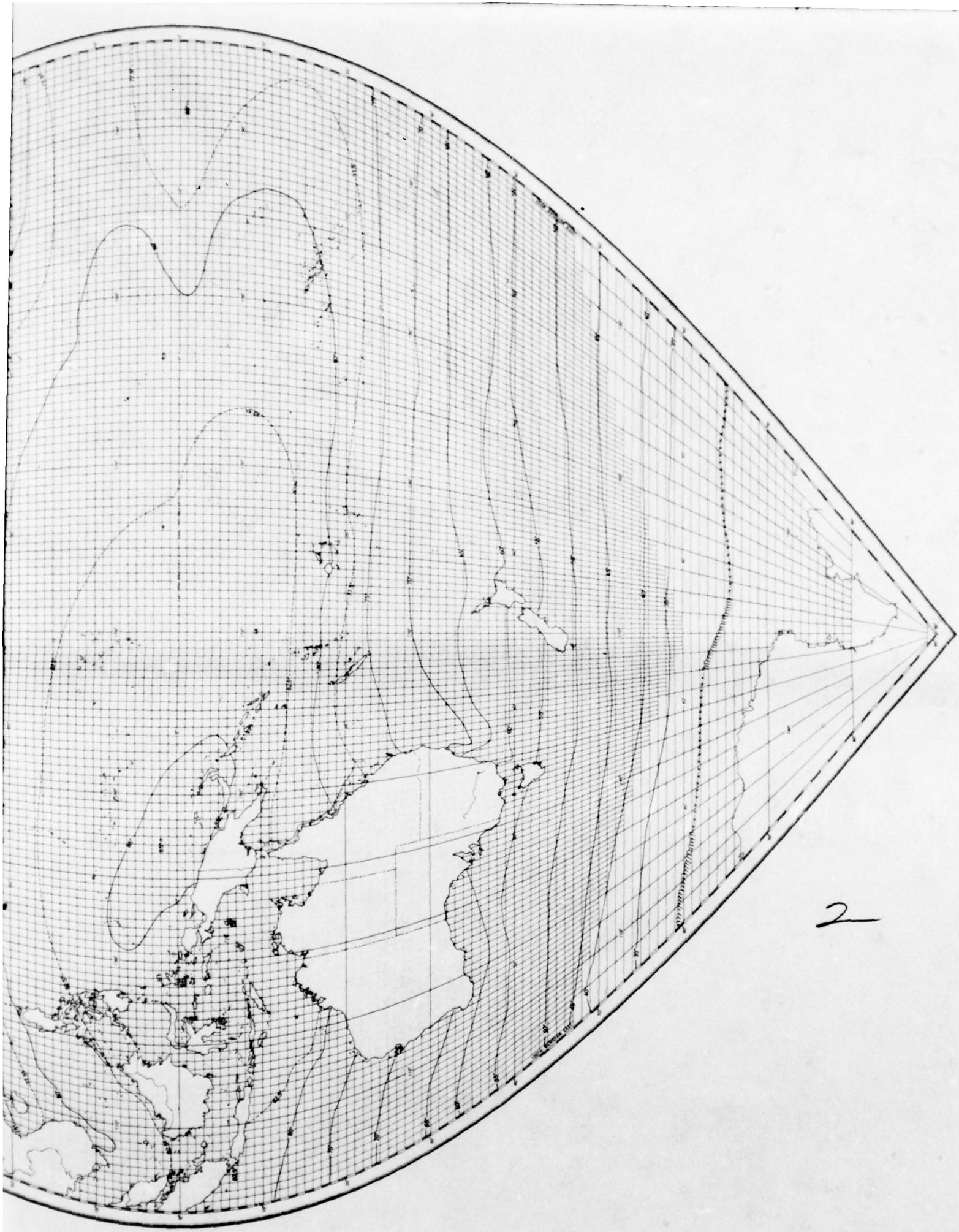
WASHINGTON, D.C.
1943
WESTERN PACIFIC OCEAN
NOVEMBER
LEGEND
TEMPERATURES
ICE
ARCTIC
ANTARCTIC



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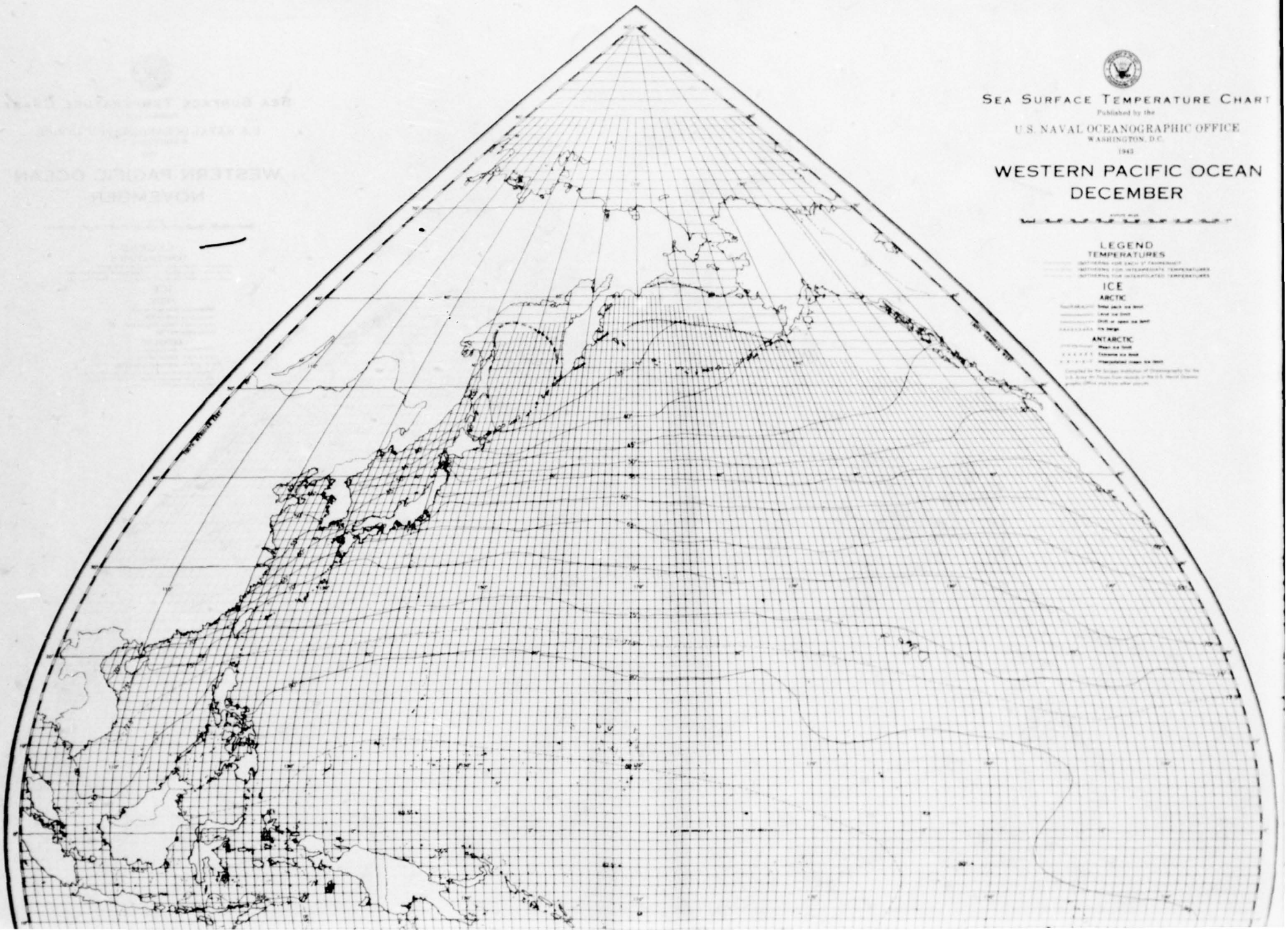


SEA SURFACE TEMPERATURE CHART

Published by the

U.S. NAVAL OCEANOGRAPHIC OFFICE

WASHINGTON, D.C.

1943

WESTERN PACIFIC OCEAN
DECEMBER

LEGEND

TEMPERATURES

(SCATTERING FOR EACH 5° FAHRENHEIT)

(SCATTERING FOR INTERPOLATED TEMPERATURES)

(SCATTERING FOR EXTRAPOLATED TEMPERATURES)

ICE

ARCTIC

Solid pack ice limit

Heavy ice limit

Drift or open ice limit

Ice berge

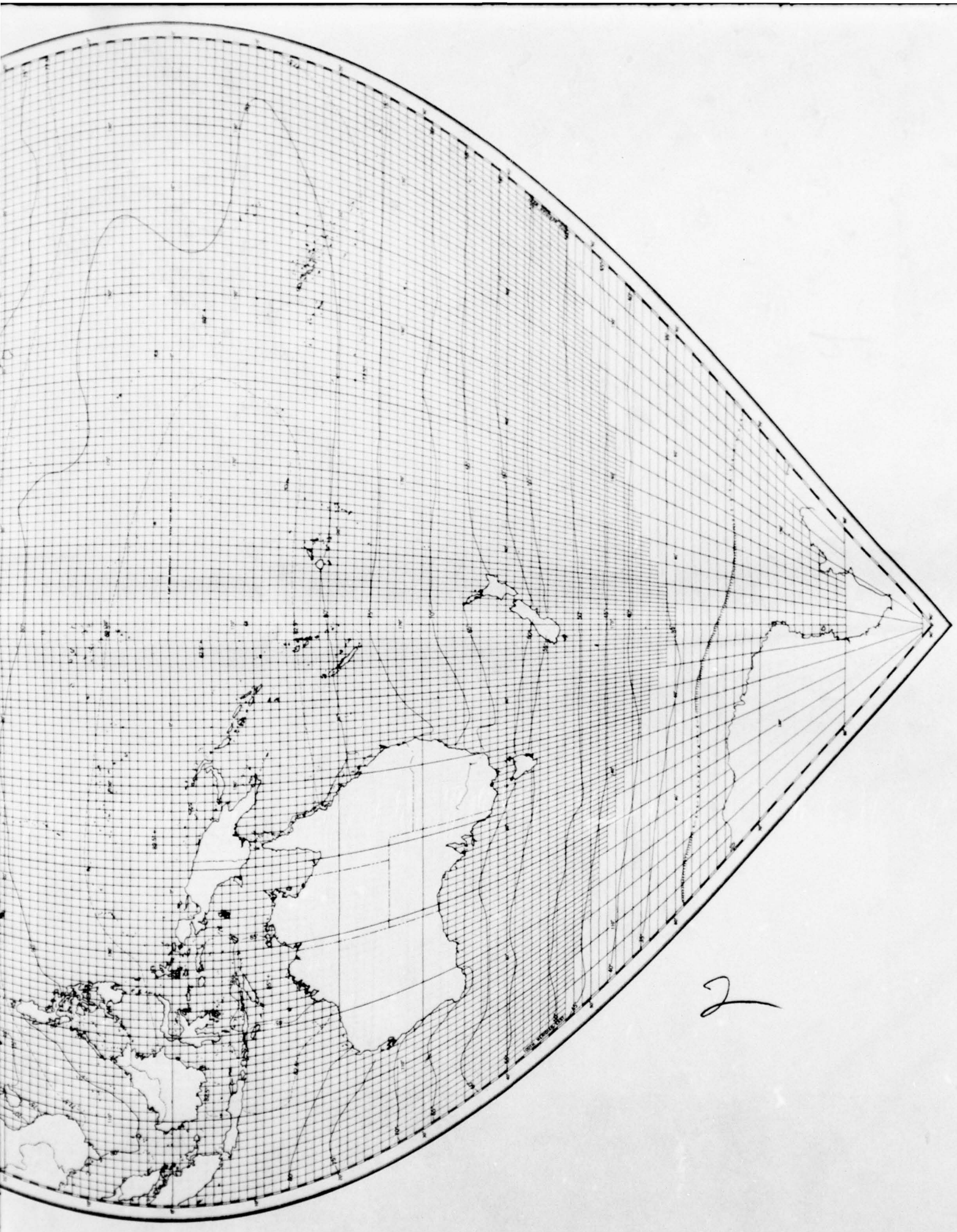
ANTARCTIC

Mean ice limit

Extreme ice limit

Interpolated mean ice limit

Compiled by the Scripps Institution of Oceanography for the U.S. Army Air Forces from records of the U.S. Hydrographic Office and from other sources.



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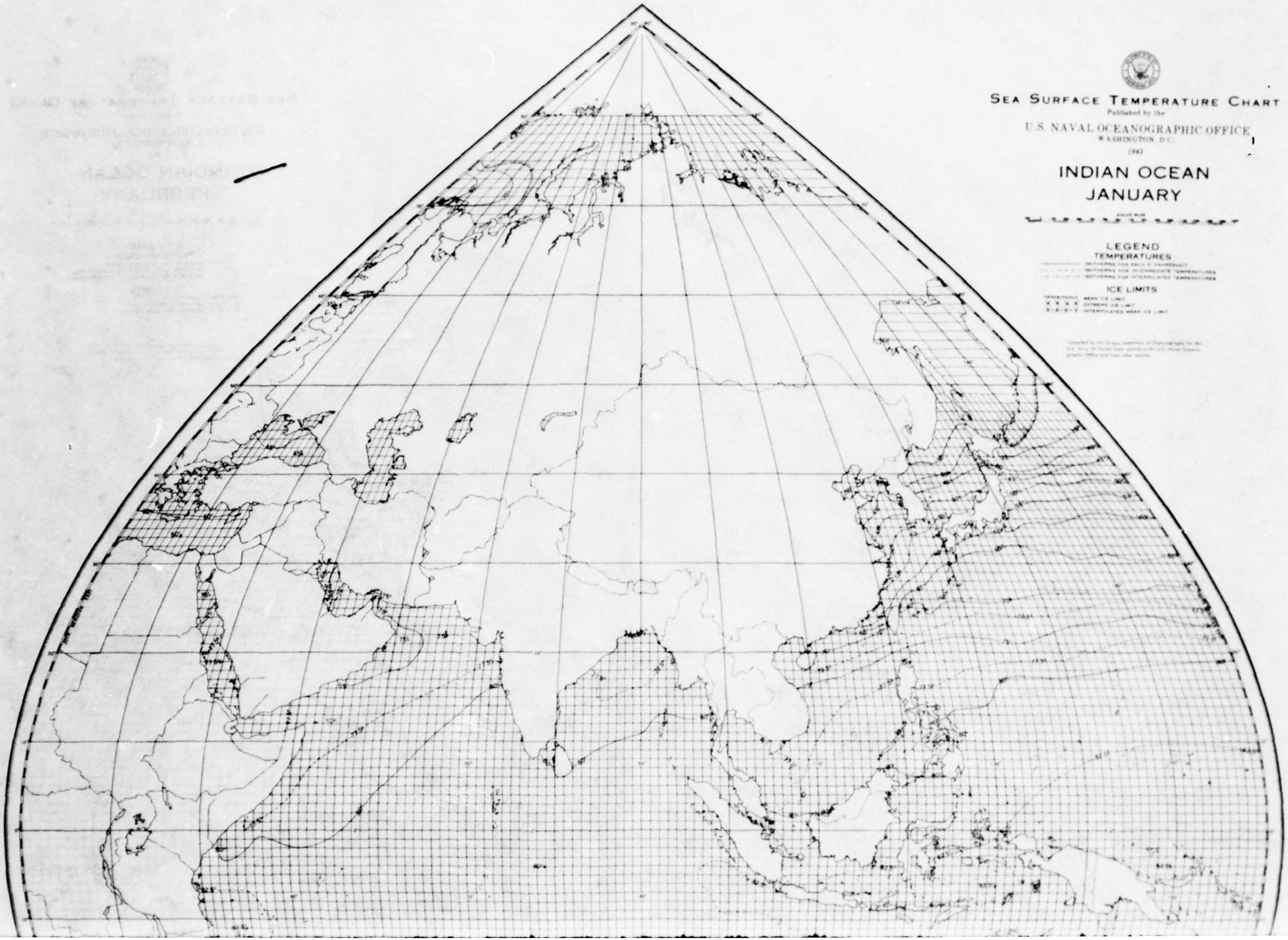


SEA SURFACE TEMPERATURE CHART

Published by the

U.S. NAVAL OCEANOGRAPHIC OFFICE

WASHINGTON, D.C.

1962

INDIAN OCEAN
JANUARY

LEGEND

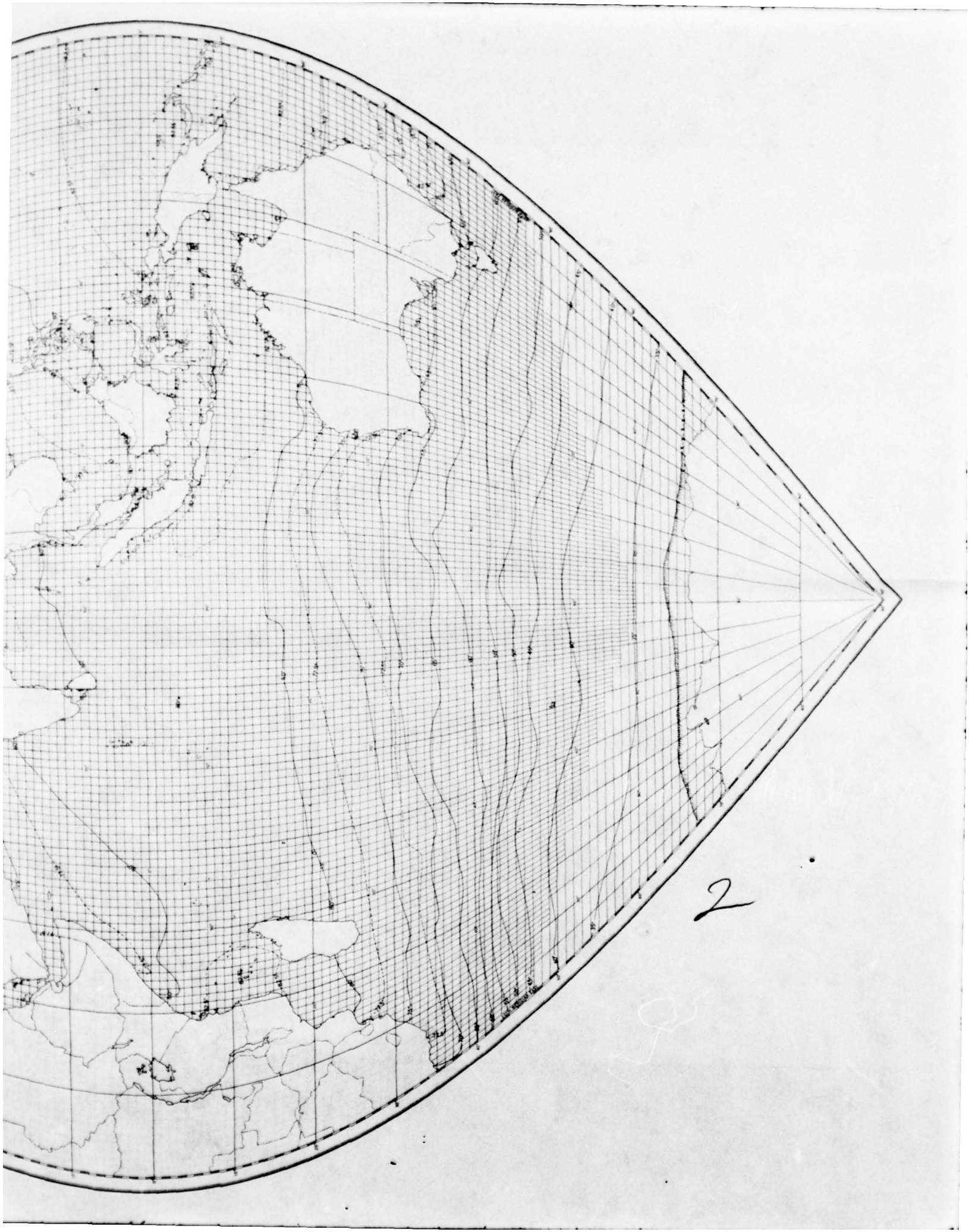
TEMPERATURES

ICE LIMITS

MEAN ICE LIMIT

EXTREME ICE LIMIT

INTERPOLATED MEAN ICE LIMIT



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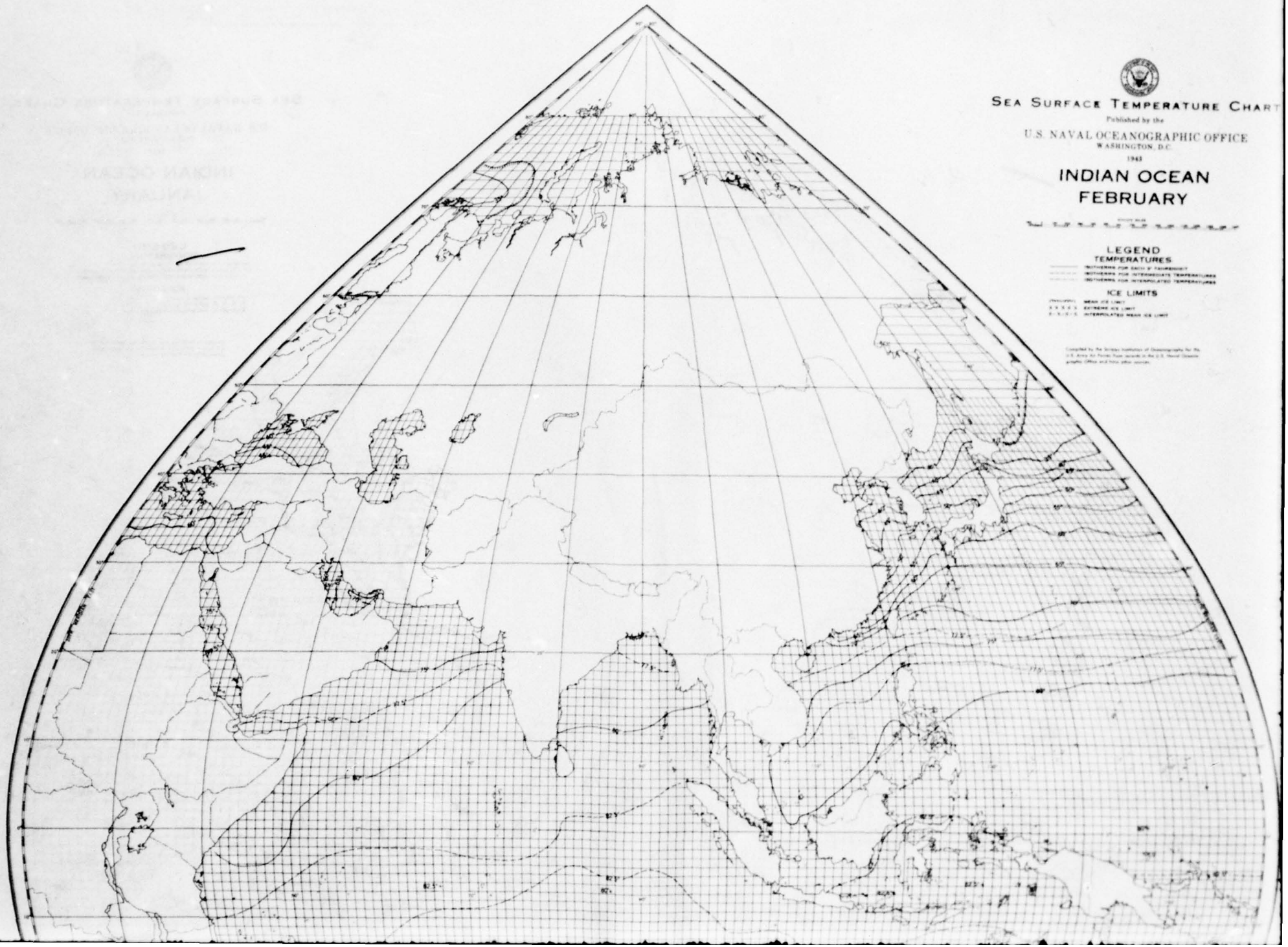

SEA SURFACE TEMPERATURE CHART

Published by the

U.S. NAVAL OCEANOGRAPHIC OFFICE

WASHINGTON, D.C.

1948

INDIAN OCEAN
FEBRUARY

LEGEND

TEMPERATURES

ISOTHERMS FOR EACH 5° FAHRENHEIT

ISOTHERMS FOR INTERMEDIATE TEMPERATURES

ISOTHERMS FOR INTERPOLATED TEMPERATURES

ICE LIMITS

MEAN ICE LIMIT

EXTREME ICE LIMIT

INTERPOLATED MEAN ICE LIMIT

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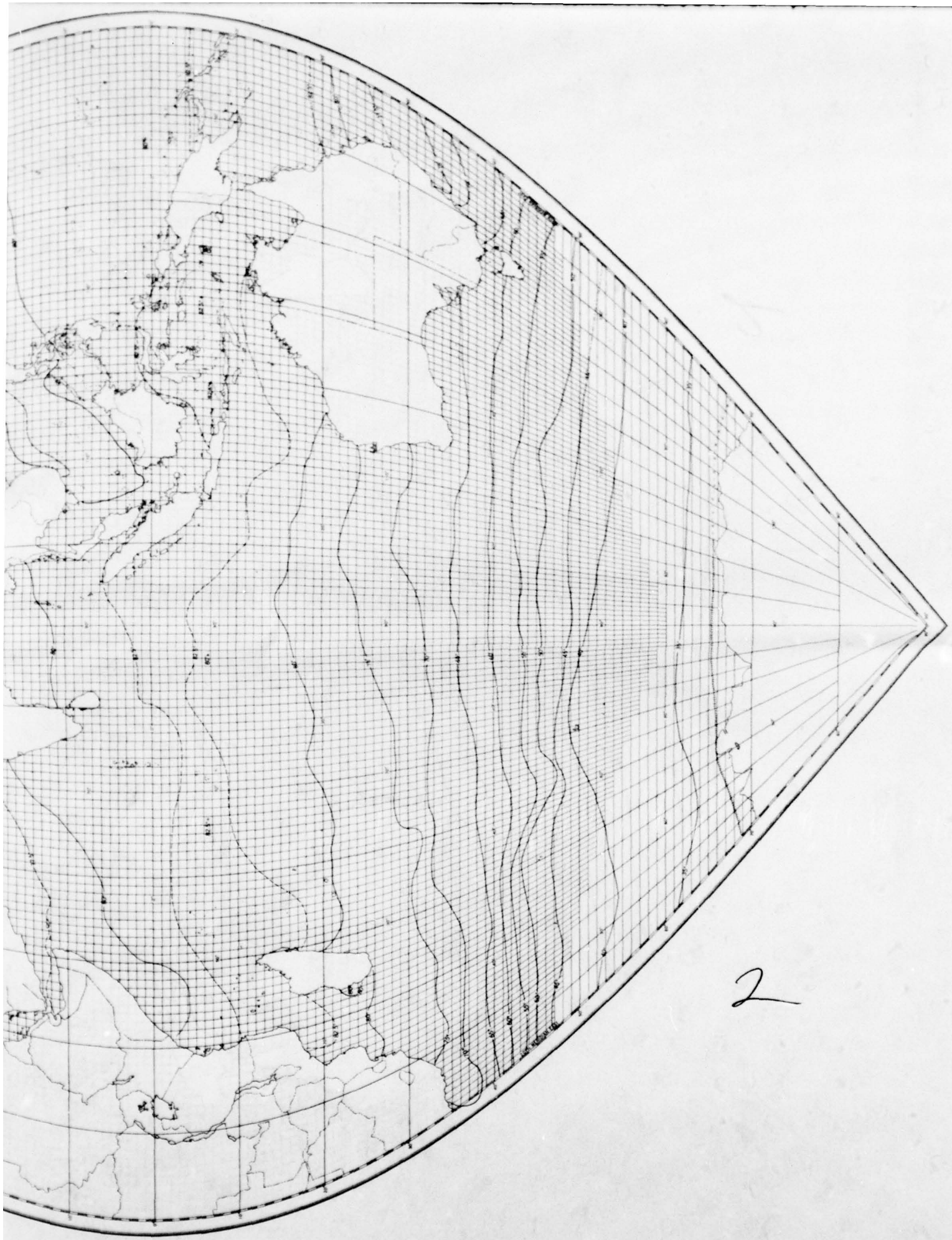

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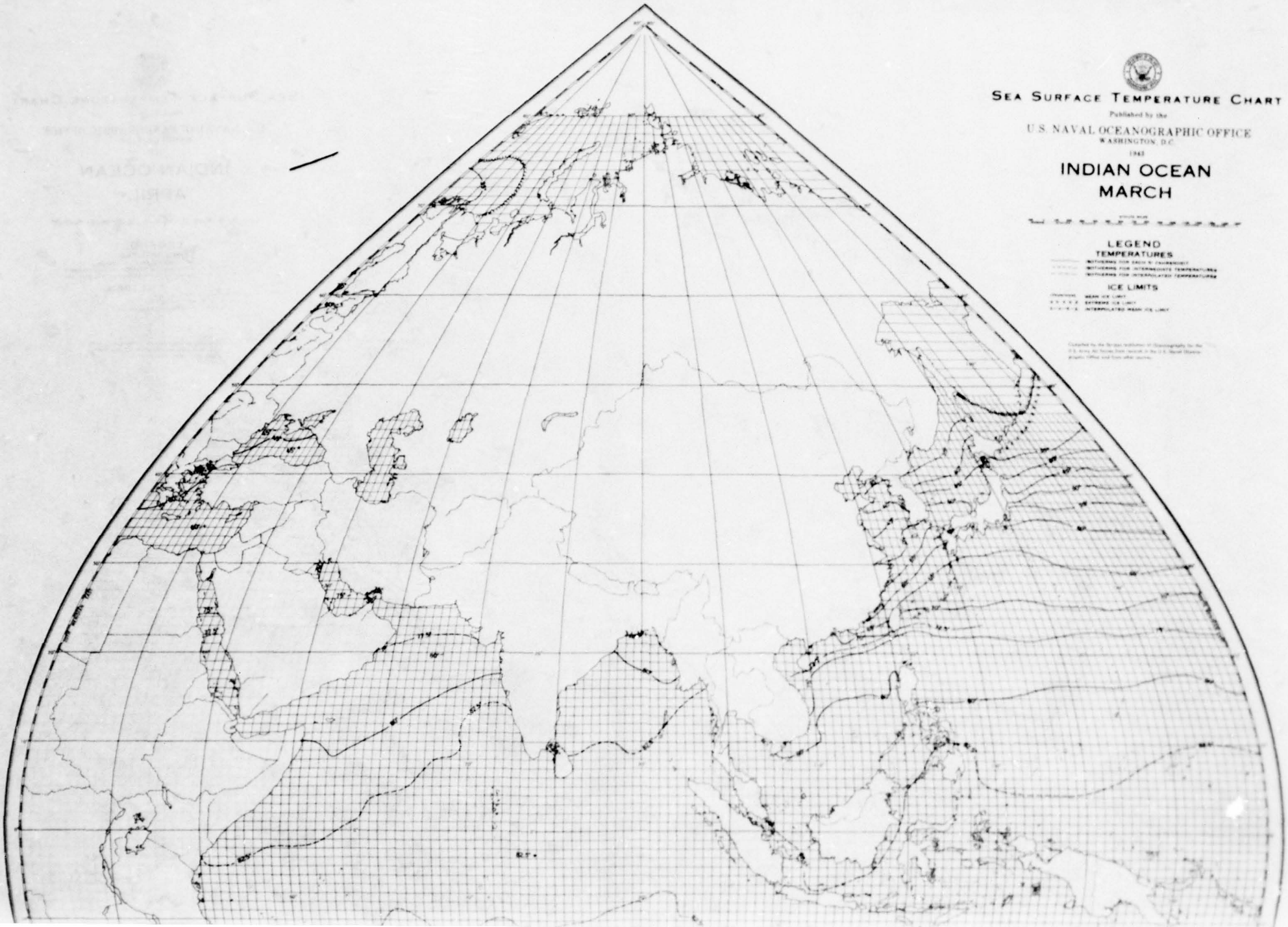


SEA SURFACE TEMPERATURE CHART

Published by the

U.S. NAVAL OCEANOGRAPHIC OFFICE

WASHINGTON, D.C.

1963

INDIAN OCEAN
MARCH

LEGEND

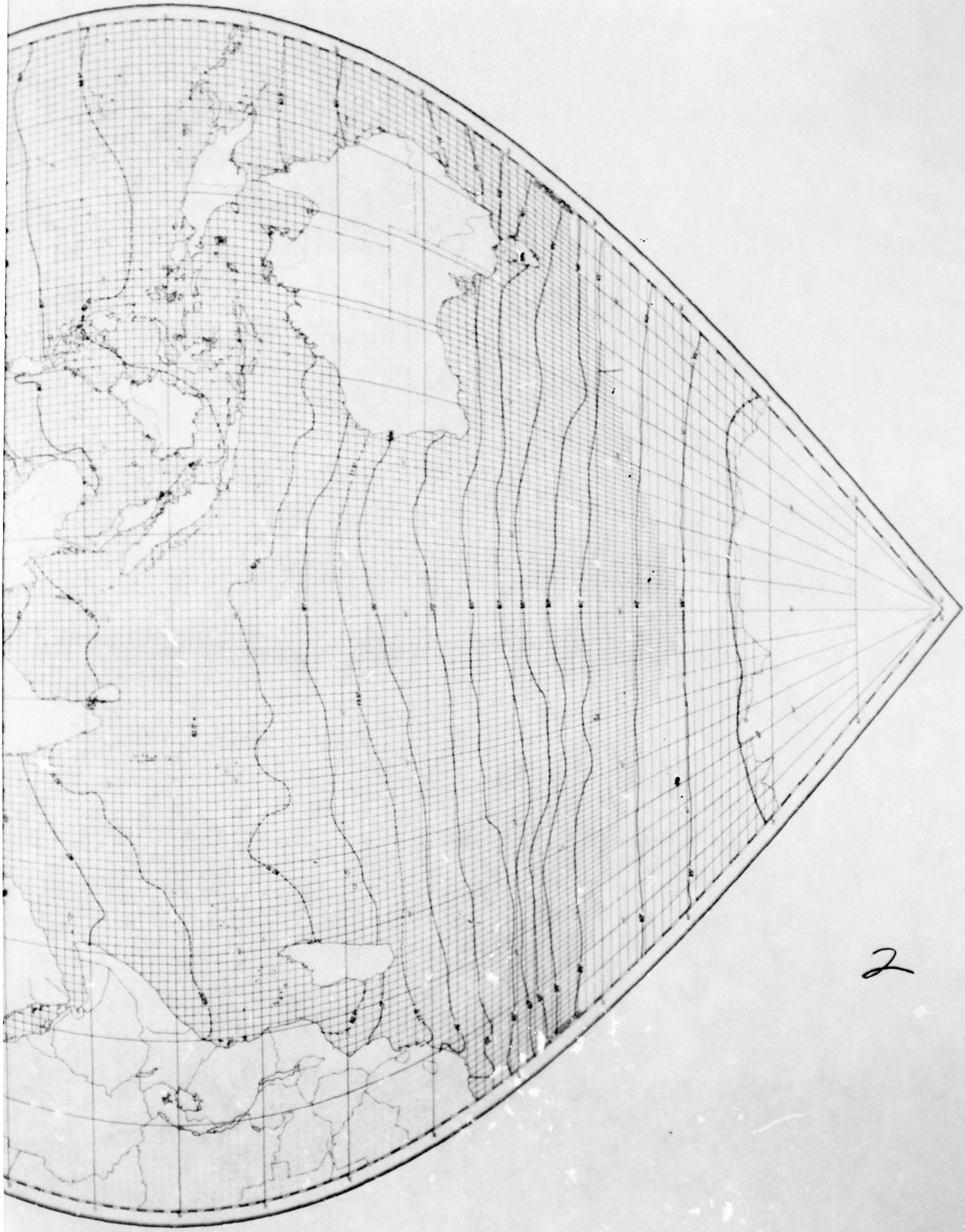
TEMPERATURES

ICE LIMITS

MEAN ICE LIMIT

EXTREME ICE LIMIT

INTERPOLATED MEAN ICE LIMIT



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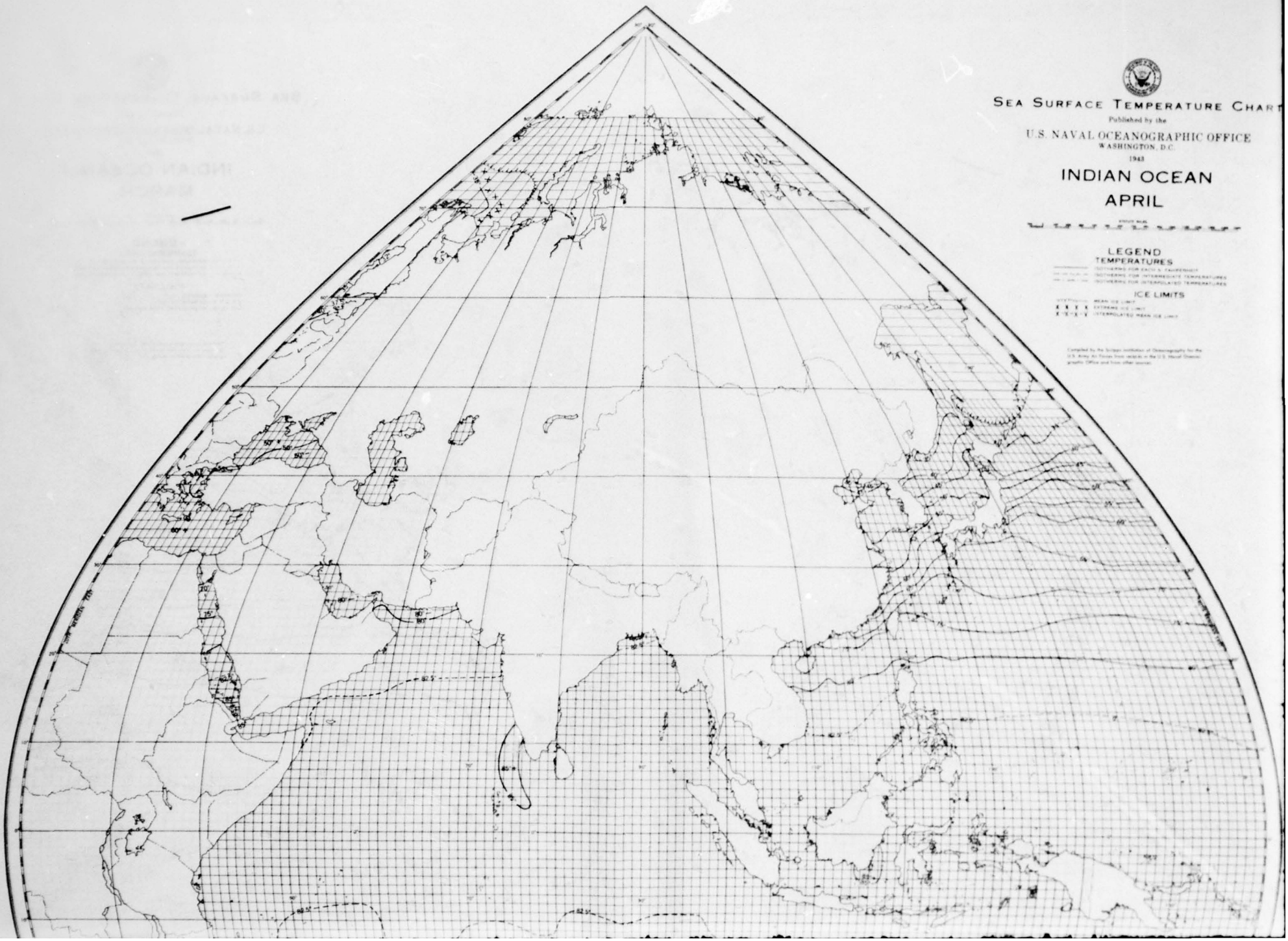

SEA SURFACE TEMPERATURE CHART

Published by the

U.S. NAVAL OCEANOGRAPHIC OFFICE

WASHINGTON, D.C.

1943

INDIAN OCEAN

APRIL

LEGEND

TEMPERATURES

ISOTHERMS FOR EACH 5 FAHRENHEIT

ISOTHERMS FOR INTERMEDIATE TEMPERATURES

ISOTHERMS FOR INTERPOLATED TEMPERATURES

ICE LIMITS

MEAN ICE LIMIT

EXTREME ICE LIMIT

INTERPOLATED MEAN ICE LIMIT

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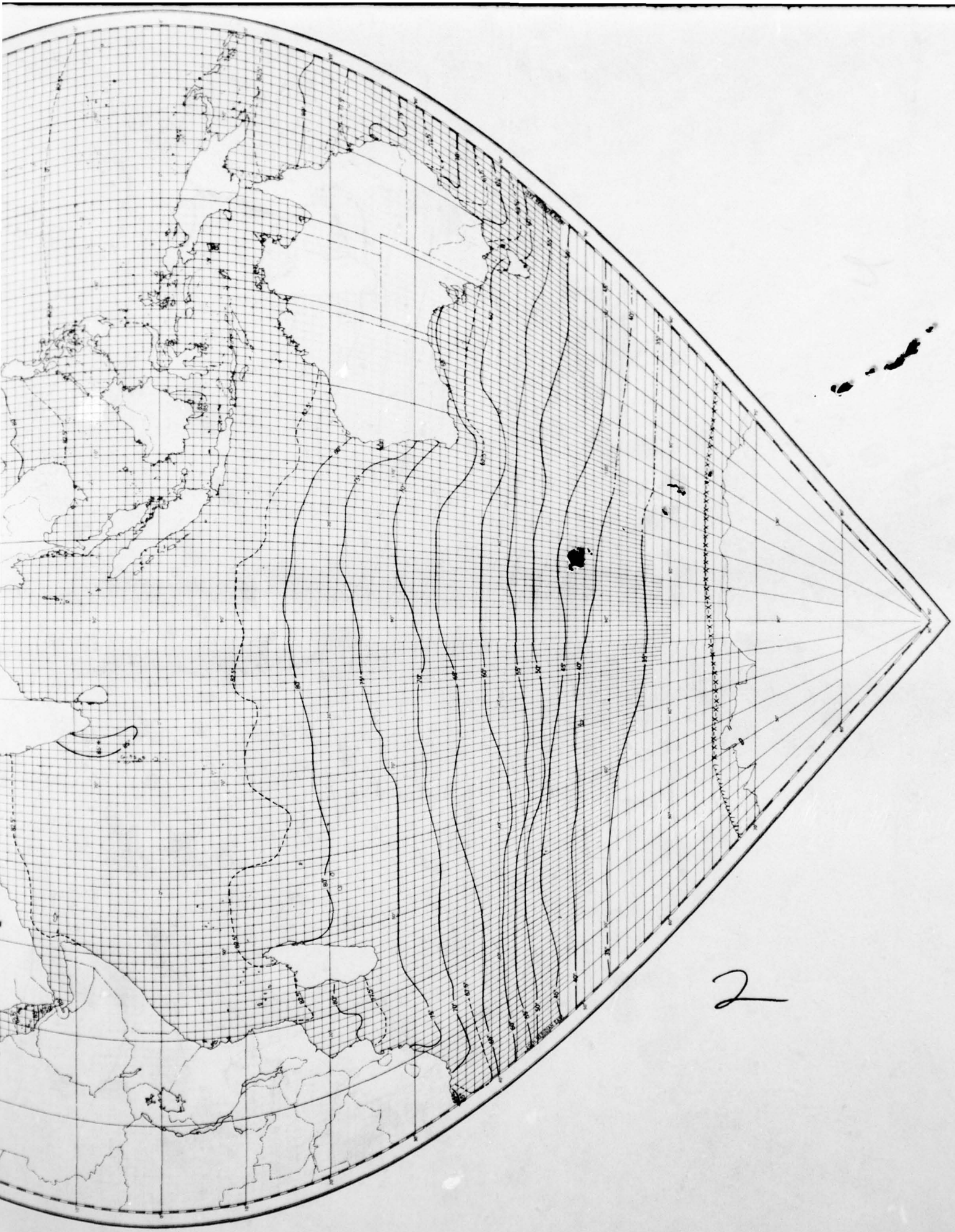

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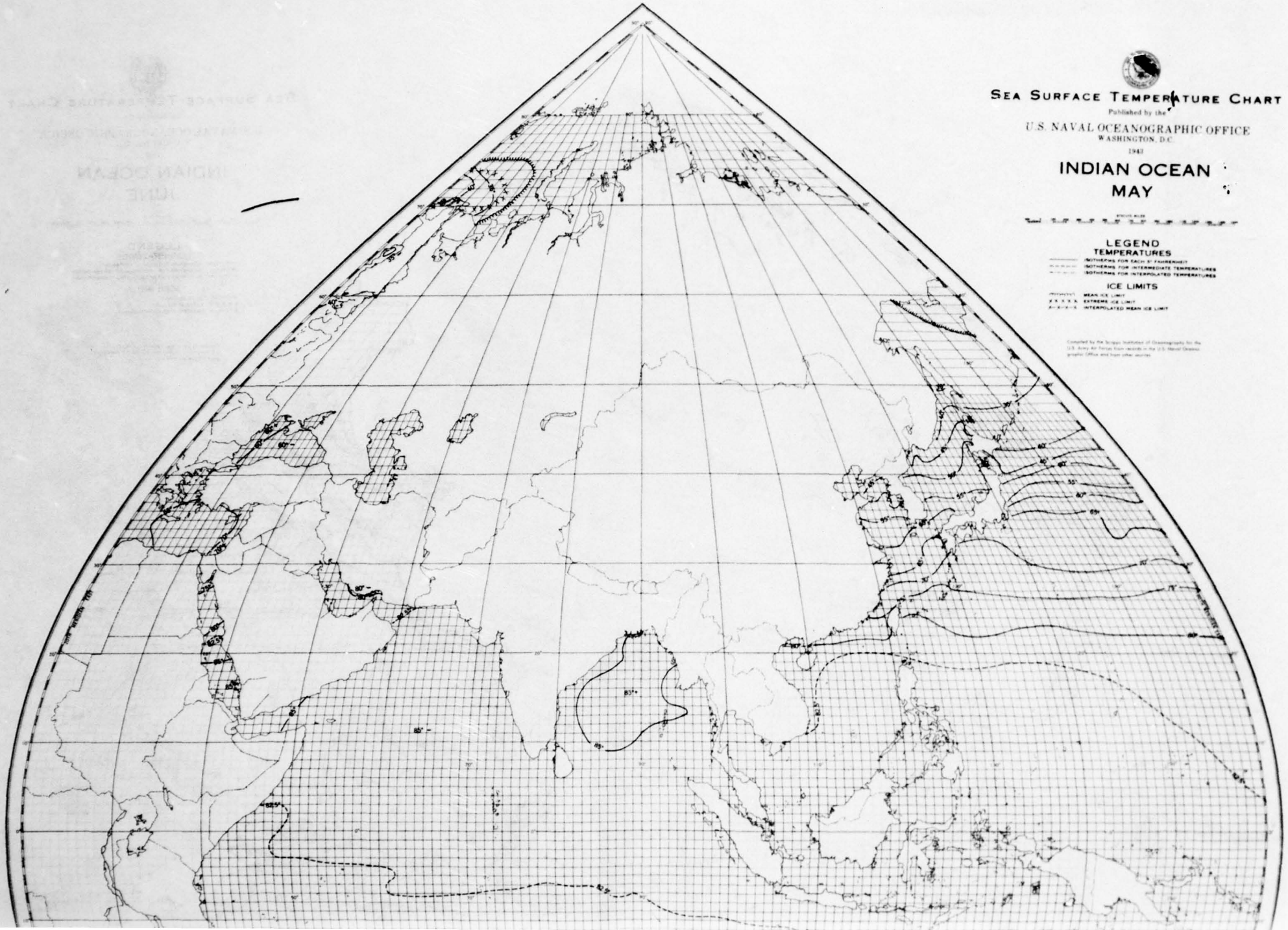

SEA SURFACE TEMPERATURE CHART

Published by the

U.S. NAVAL OCEANOGRAPHIC OFFICE
WASHINGTON, D.C.
1962

INDIAN OCEAN
MAY

STATUTE MILES

LEGEND

TEMPERATURES

ISOTHERMS FOR EACH 5° FAHRENHEIT
ISOTHERMS FOR INTERMEDIATE TEMPERATURES
ISOTHERMS FOR INTERPOLATED TEMPERATURES

ICE LIMITS

MEAN ICE LIMIT
EXTREME ICE LIMIT
INTERPOLATED MEAN ICE LIMIT

Compiled by the Scripps Institution of Oceanography for the U.S. Army Air Forces from records in the U.S. Naval Oceanographic Office and from other sources.

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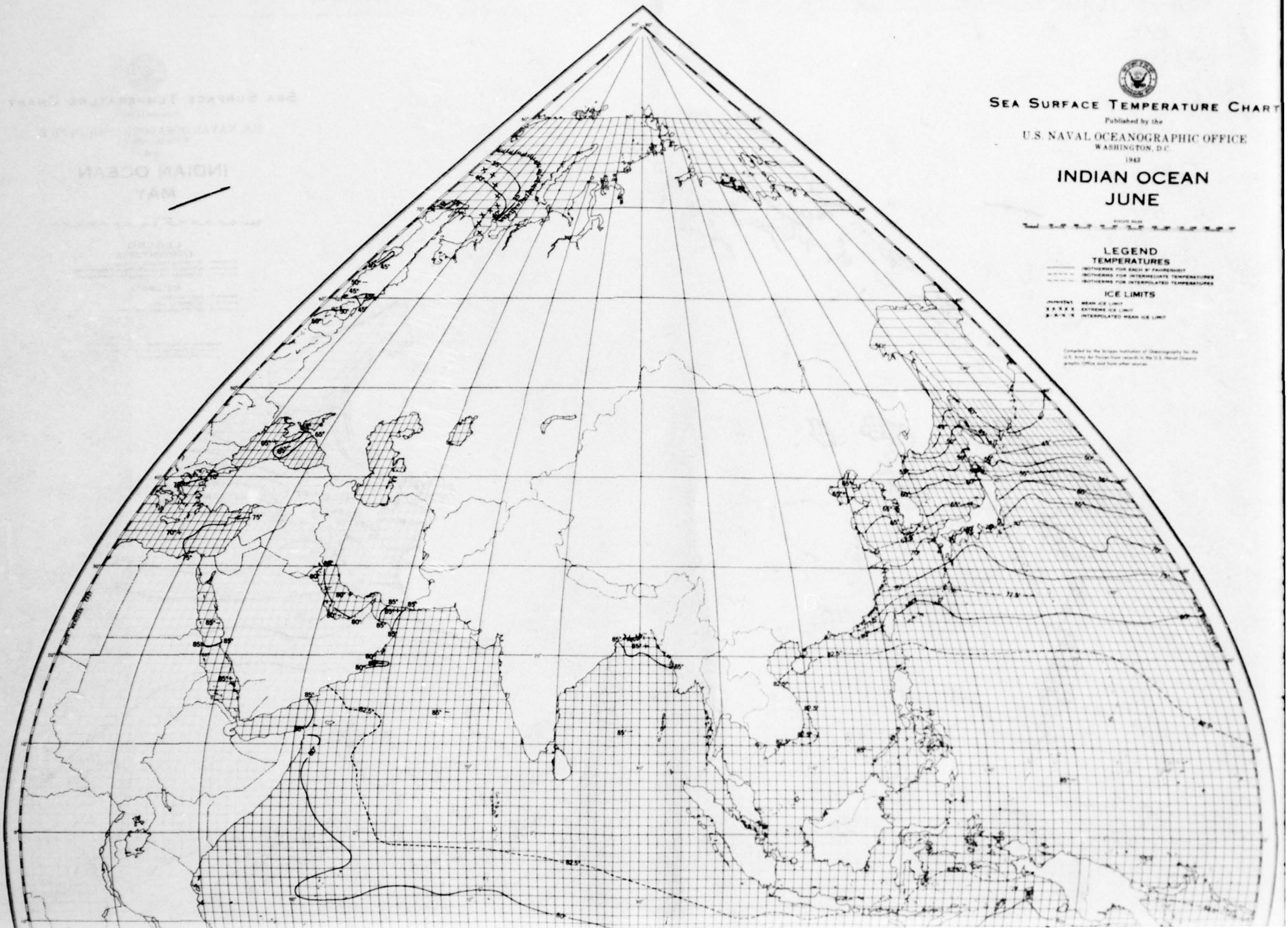

SEA SURFACE TEMPERATURE CHART

Published by the

U.S. NAVAL OCEANOGRAPHIC OFFICE

WASHINGTON, D.C.

1943

INDIAN OCEAN

JUNE

LEGEND

TEMPERATURES

ISOTHERMS FOR EACH 5° FAHRENHEIT

ISOTHERMS FOR INTERMEDIATE TEMPERATURES

ISOTHERMS FOR INTERPOLATED TEMPERATURES

ICE LIMITS

MEAN ICE LIMIT

EXTREME ICE LIMIT

INTERPOLATED MEAN ICE LIMIT

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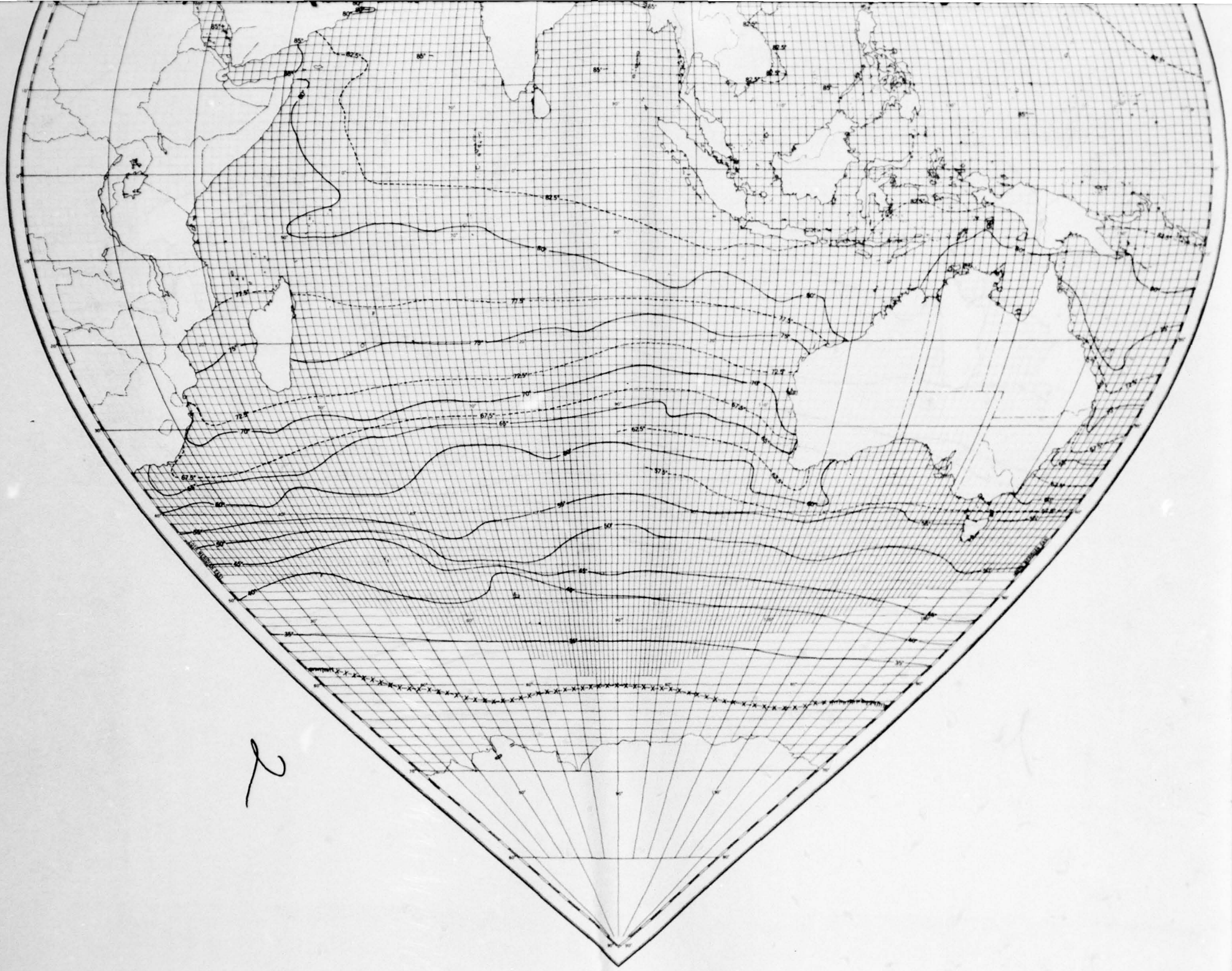

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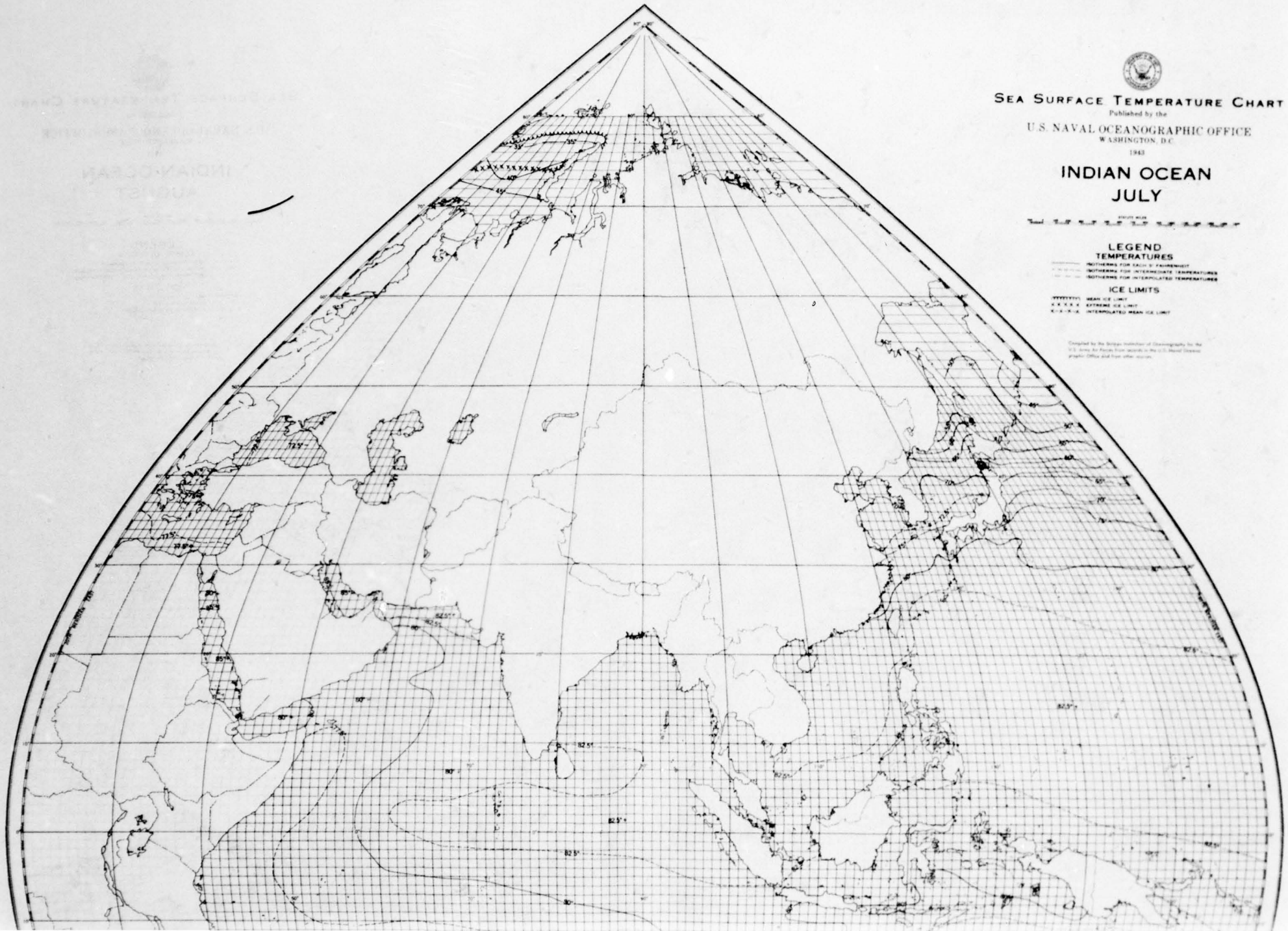


SEA SURFACE TEMPERATURE CHART

Published by the

U.S. NAVAL OCEANOGRAPHIC OFFICE

WASHINGTON, D.C.

1963

INDIAN OCEAN
JULY

LEGEND

TEMPERATURES

ISOTHERMS FOR EACH 5° FAHRENHEIT

ISOTHERMS FOR INTERMEDIATE TEMPERATURES

ISOTHERMS FOR INTERPOLATED TEMPERATURES

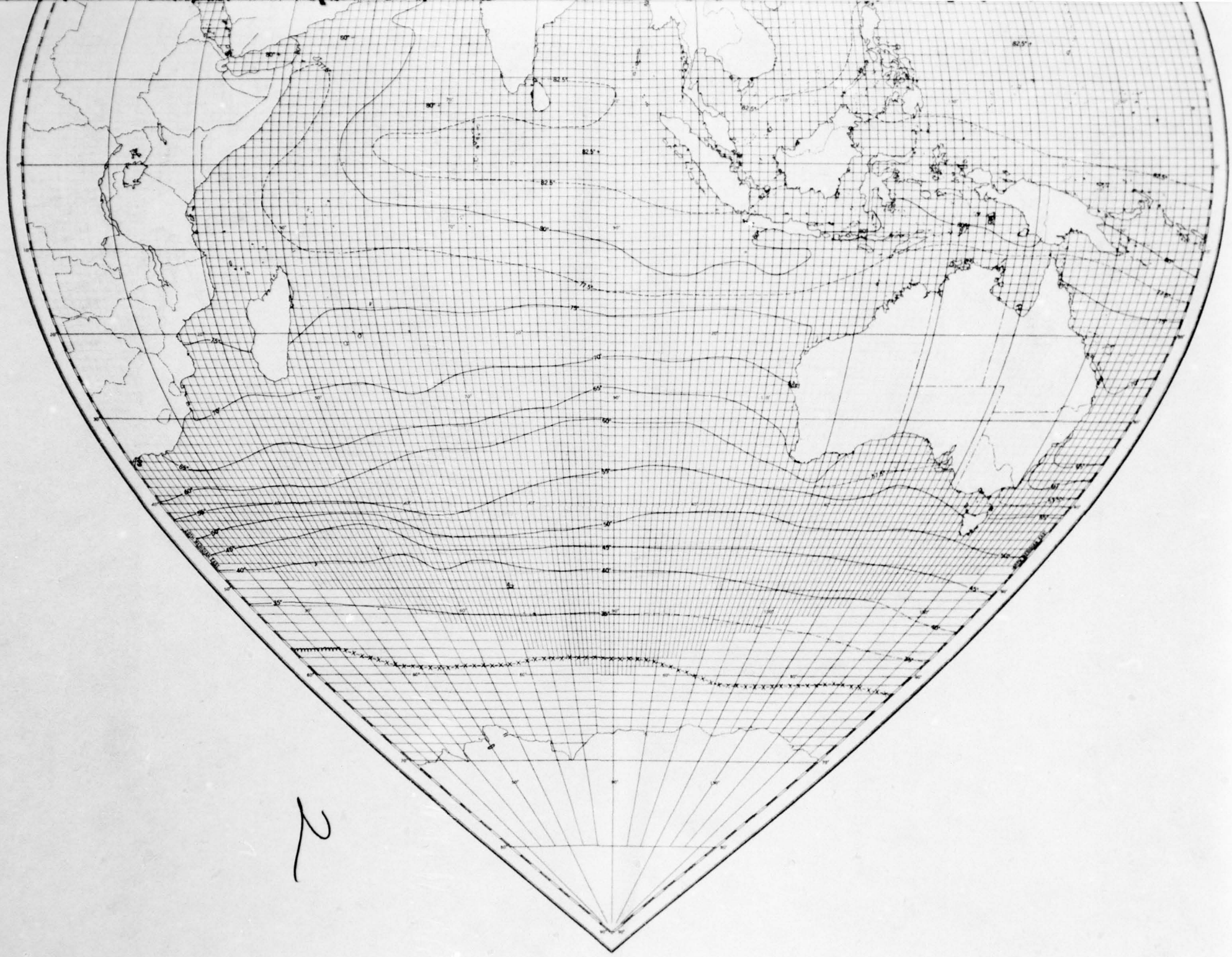
ICE LIMITS

MEAN ICE LIMIT

EXTREME ICE LIMIT

INTERPOLATED MEAN ICE LIMIT

Compiled by the Scripps Institution of Oceanography for the U.S. Army, Air Force from records in the U.S. Naval Oceanographic Office and from other sources.



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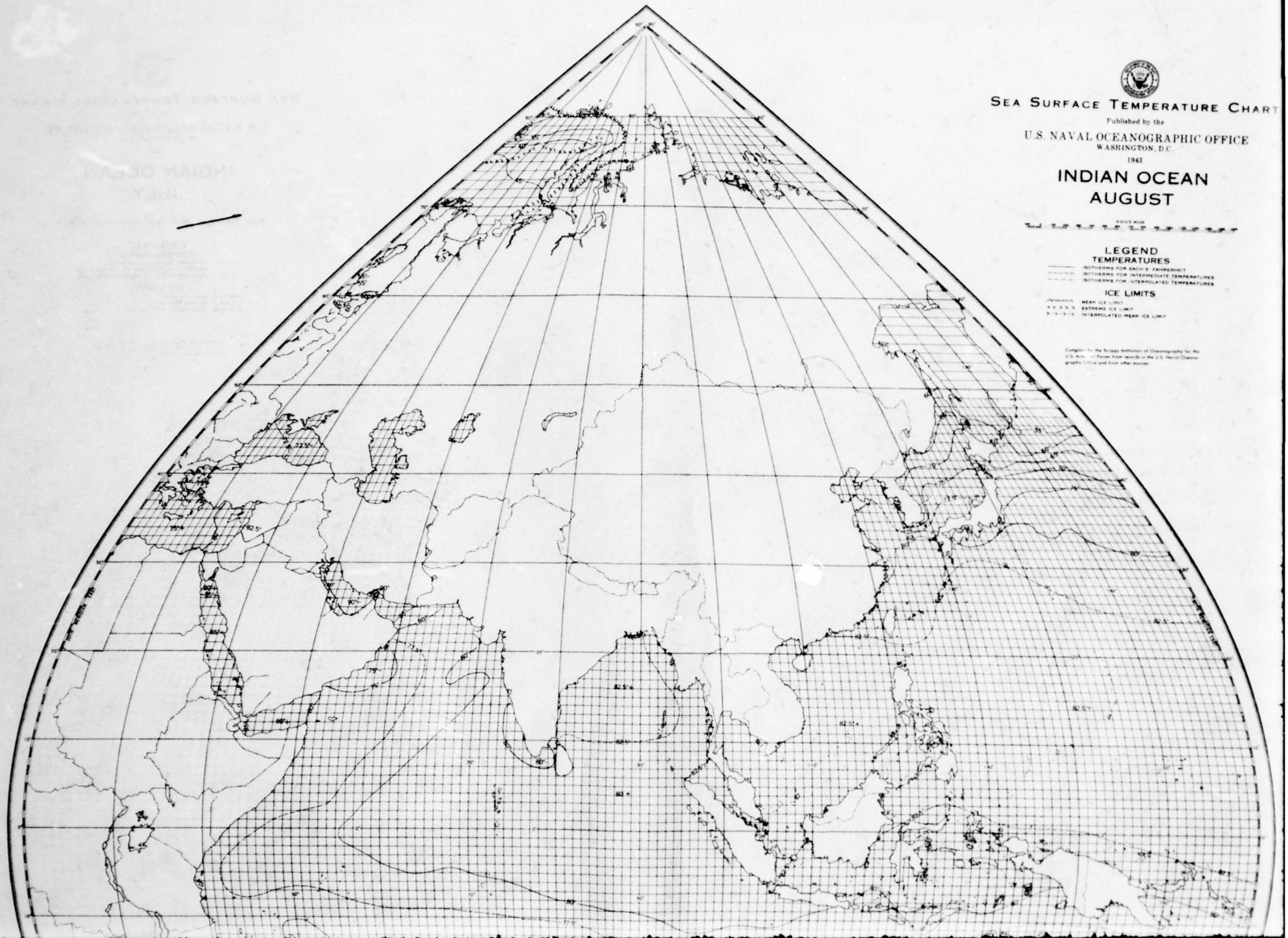
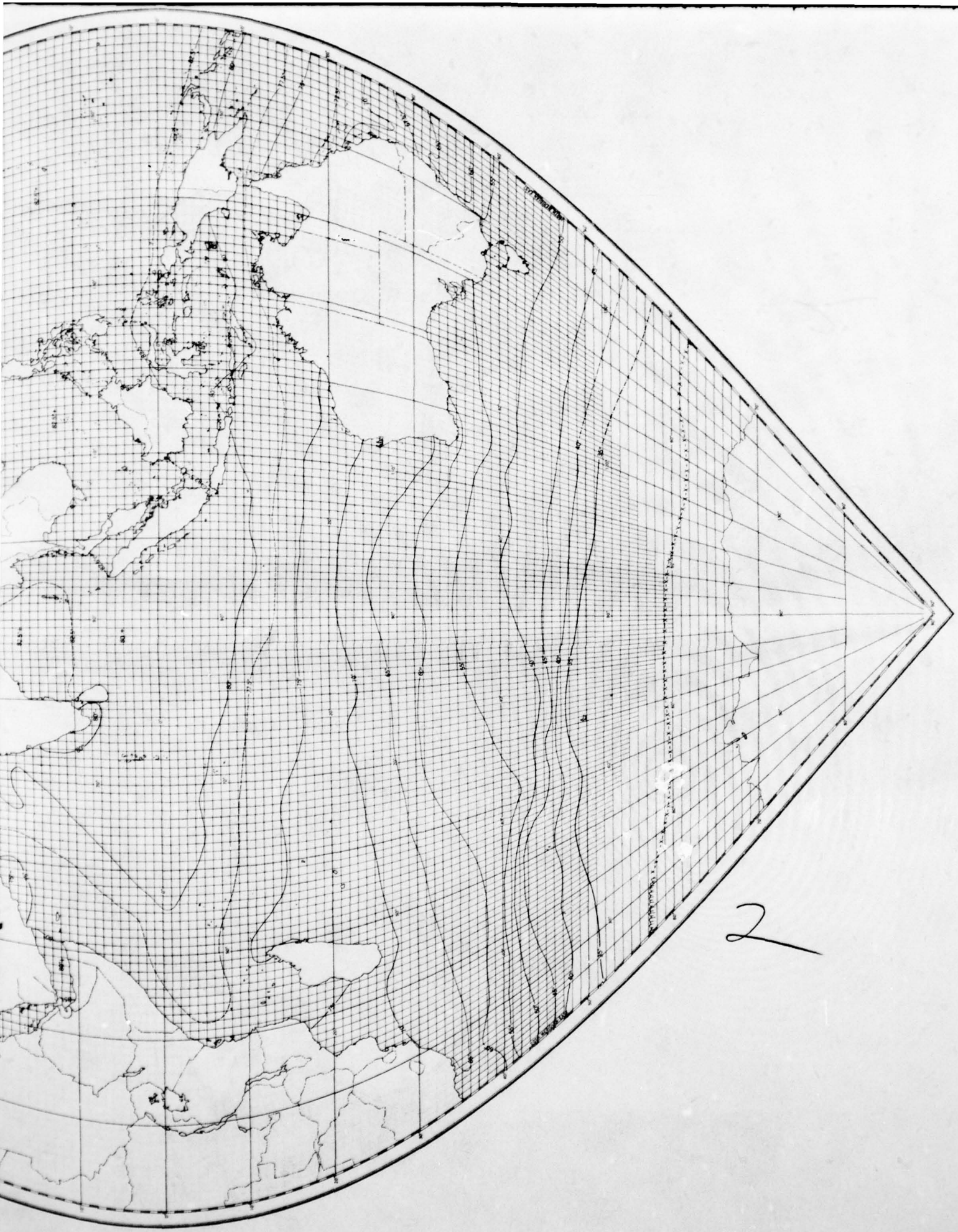

SEA SURFACE TEMPERATURE CHART
Published by the
U.S. NAVAL OCEANOGRAPHIC OFFICE
WASHINGTON, D.C.
1943
INDIAN OCEAN
AUGUST
STATUTE MILES
LEGEND
TEMPERATURES
ISOTHERMS FOR EACH 5° FAHRENHEIT
ISOTHERMS FOR INTERMEDIATE TEMPERATURES
ISOTHERMS FOR INTERPOLATED TEMPERATURES
ICE LIMITS
MEAN ICE LIMIT
EXTREME ICE LIMIT
INTERPOLATED MEAN ICE LIMIT
Compiled by the Scripps Institution of Oceanography for the U.S. Navy. Data from records in the U.S. Naval Oceanographic Office and from other sources.



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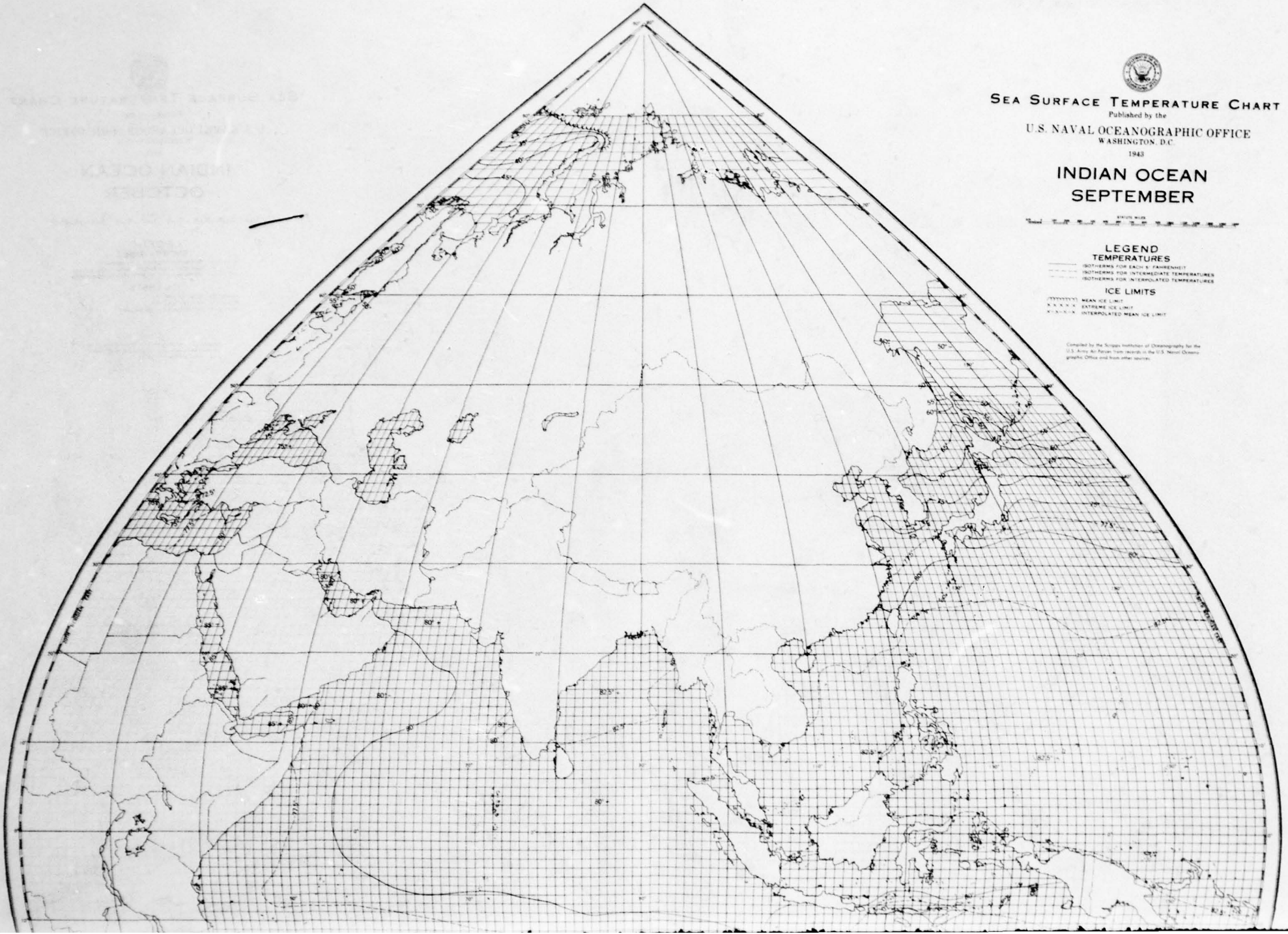

SEA SURFACE TEMPERATURE CHART

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WASHINGTON, D.C.

1943

INDIAN OCEAN
SEPTEMBER

STATUTE MILES

LEGEND

TEMPERATURES

ISOTHERMS FOR EACH 5° FAHRENHEIT

ISOTHERMS FOR INTERMEDIATE TEMPERATURES

ISOTHERMS FOR INTERPOLATED TEMPERATURES

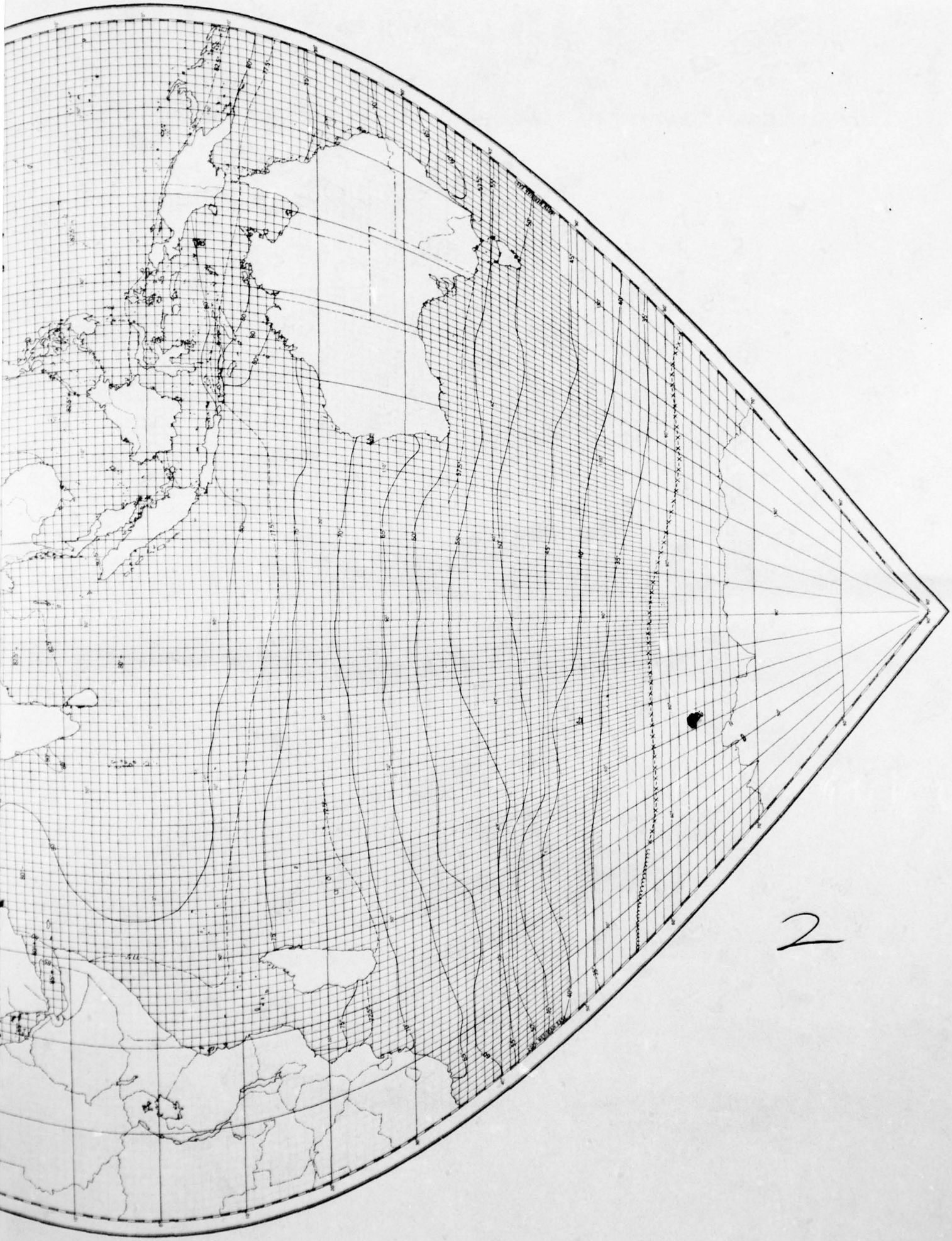
ICE LIMITS

MEAN ICE LIMIT

EXTREME ICE LIMIT

INTERPOLATED MEAN ICE LIMIT

Compiled by the Scripps Institution of Oceanography for the U.S. Army Air Forces from records in the U.S. Naval Oceanographic Office and from other sources.



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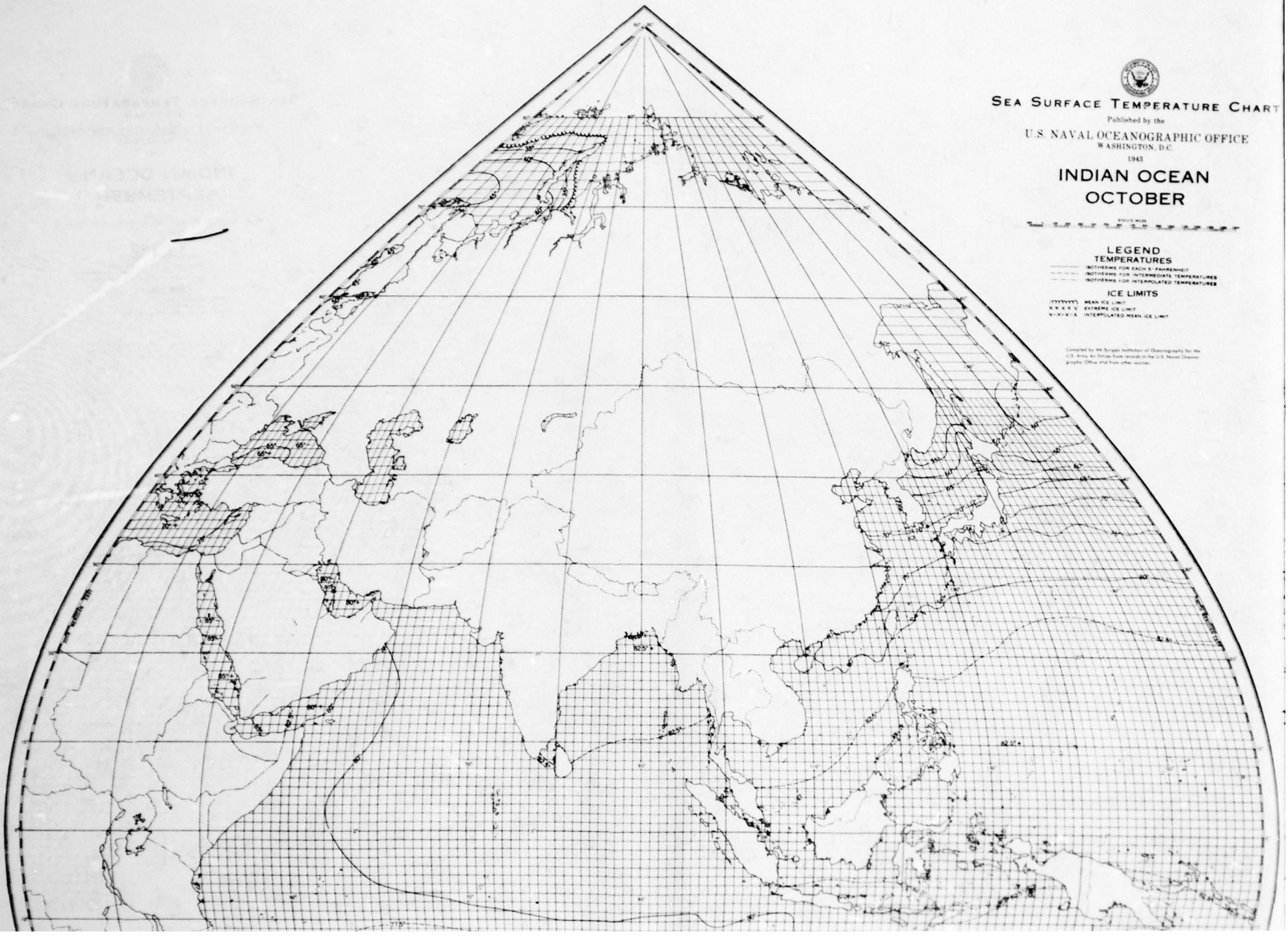

SEA SURFACE TEMPERATURE CHART

Published by the

U.S. NAVAL OCEANOGRAPHIC OFFICE
WASHINGTON, D.C.
1943

INDIAN OCEAN
OCTOBER

STATUTE MILES

LEGEND

TEMPERATURES

ISOTHERMS FOR EACH 5° FAHRENHEIT
ISOTHERMS FOR INTERMEDIATE TEMPERATURES
ISOTHERMS FOR INTERPOLATED TEMPERATURES

ICE LIMITS

MEAN ICE LIMIT
EXTREME ICE LIMIT
INTERPOLATED MEAN ICE LIMIT

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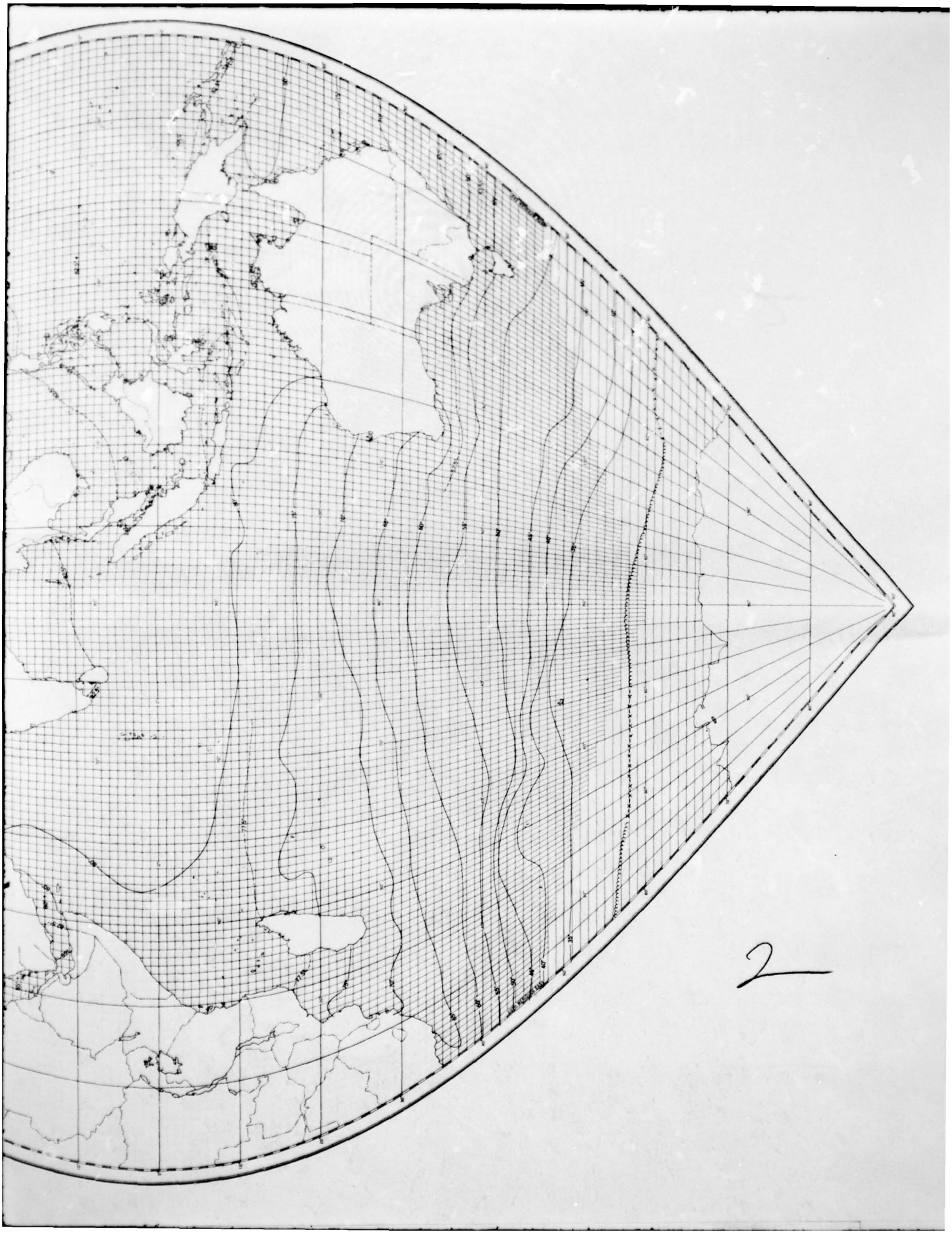

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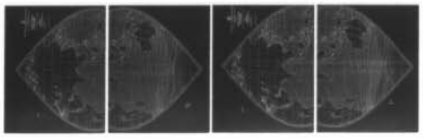

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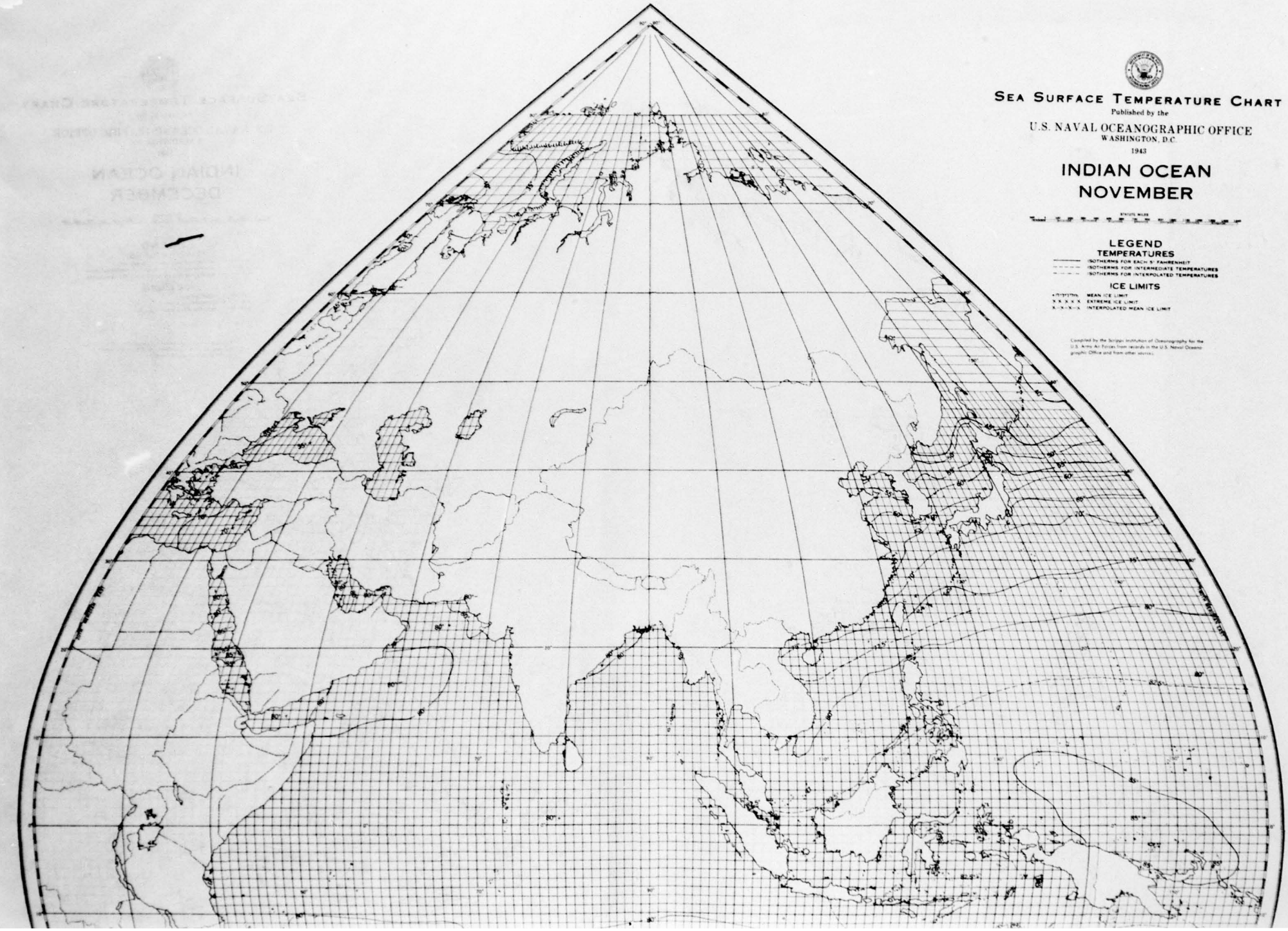

SEA SURFACE TEMPERATURE CHART

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U.S. NAVAL OCEANOGRAPHIC OFFICE
WASHINGTON, D.C.
1943

INDIAN OCEAN
NOVEMBER

STATUTE MILES

LEGEND

TEMPERATURES

- ISOTHERMS FOR EACH 5° FAHRENHEIT
- ISOTHERMS FOR INTERMEDIATE TEMPERATURES
- ISOTHERMS FOR INTERPOLATED TEMPERATURES

ICE LIMITS

- MEAN ICE LIMIT
- EXTREME ICE LIMIT
- INTERPOLATED MEAN ICE LIMIT

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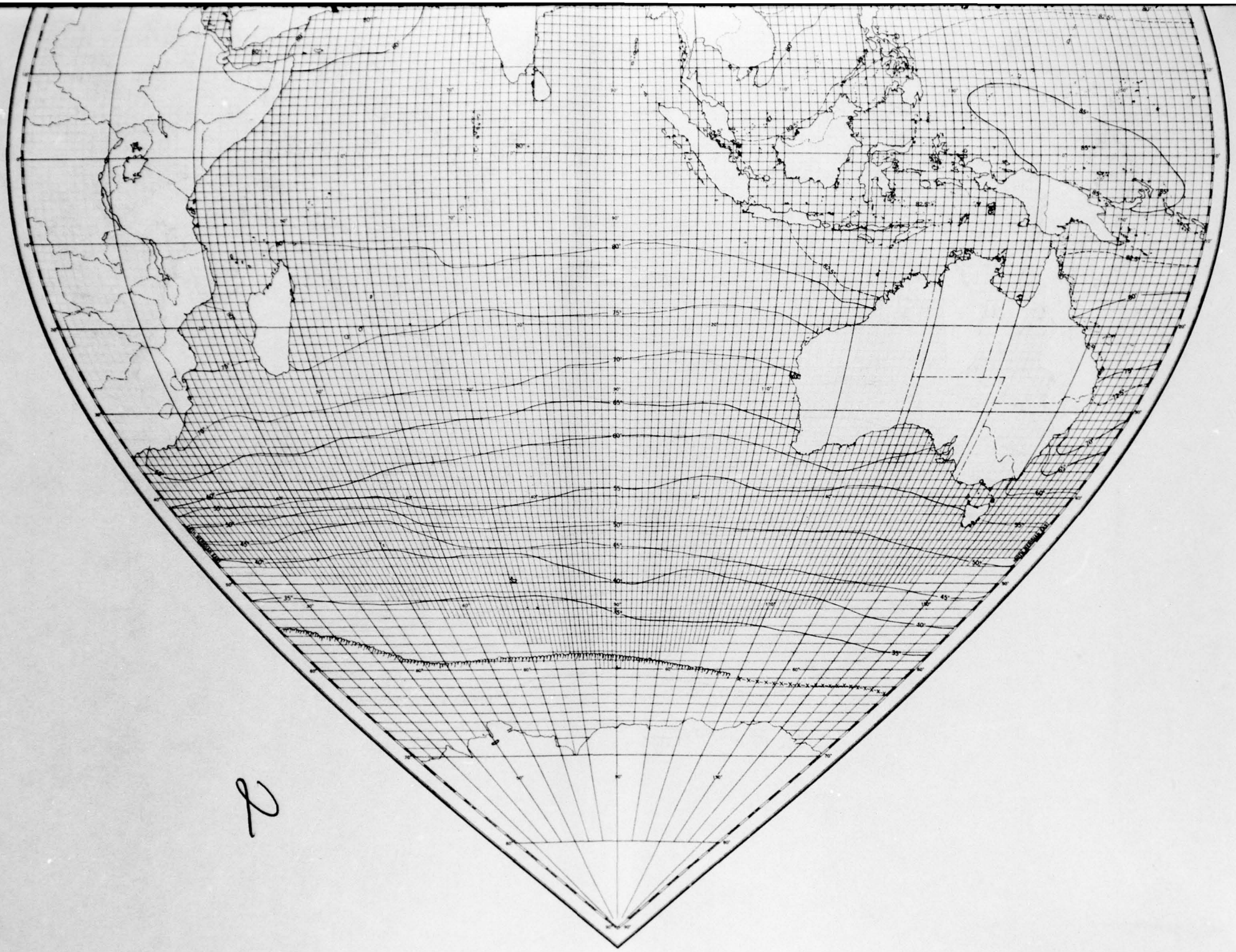

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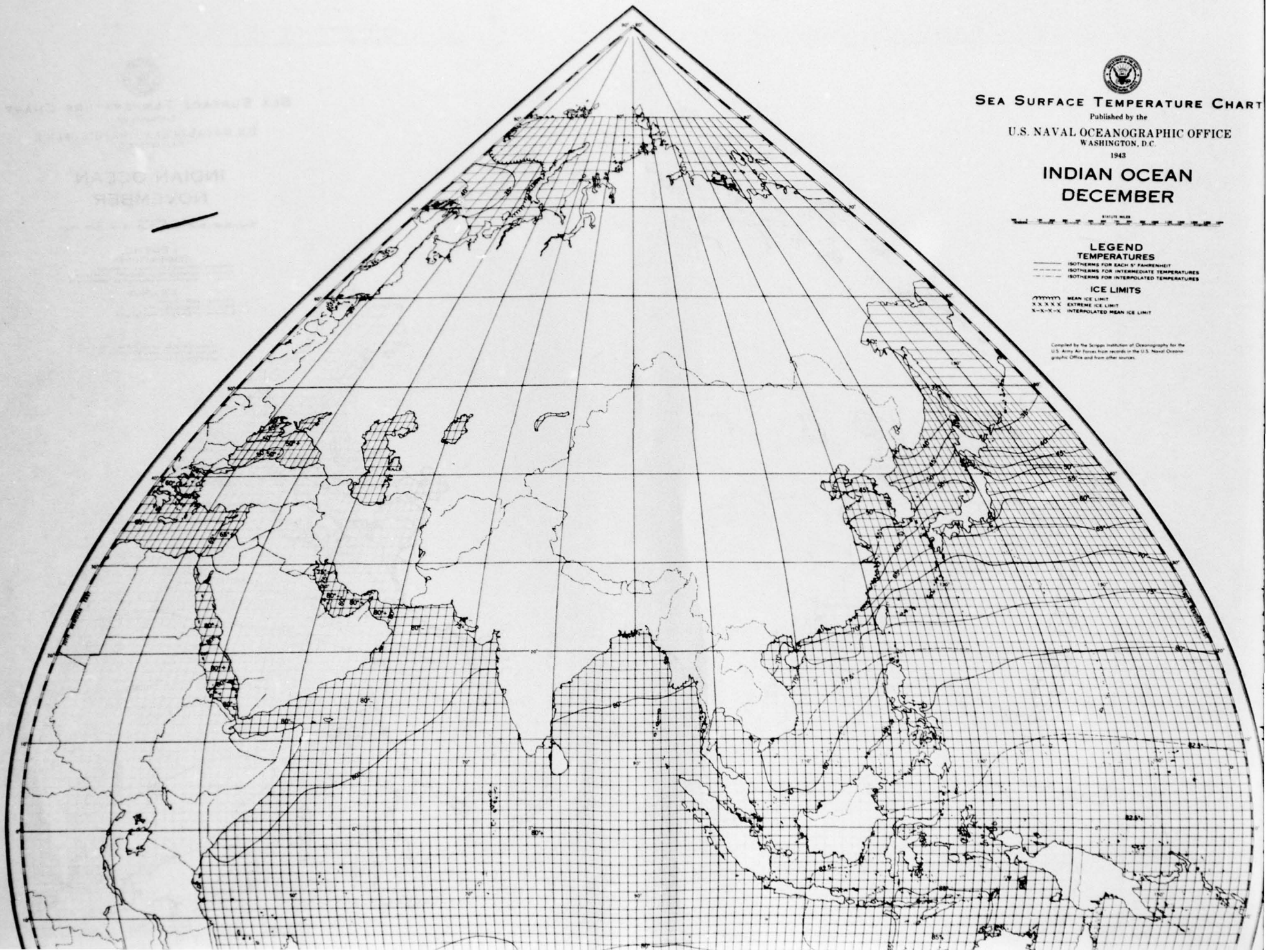

SEA SURFACE TEMPERATURE CHART

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U.S. NAVAL OCEANOGRAPHIC OFFICE
WASHINGTON, D.C.
1943

INDIAN OCEAN
DECEMBER

STATUTE MILES

LEGEND

TEMPERATURES

- ISOTHERMS FOR EACH 5° FAHRENHEIT
- ISOTHERMS FOR INTERMEDIATE TEMPERATURES
- ISOTHERMS FOR INTERPOLATED TEMPERATURES

ICE LIMITS

- MEAN ICE LIMIT
- X X X X X EXTREME ICE LIMIT
- X–X–X–X INTERPOLATED MEAN ICE LIMIT

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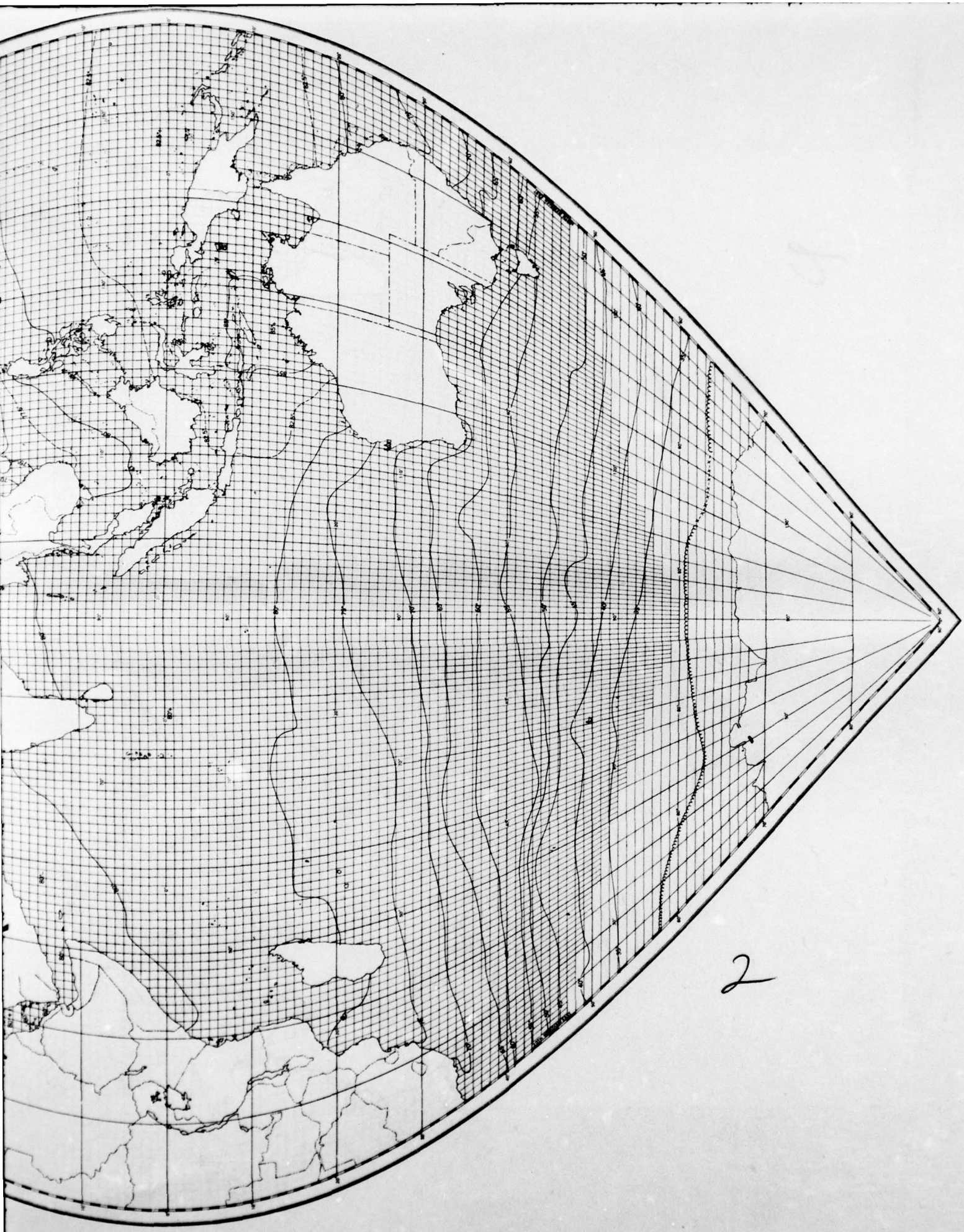

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